BLINDNESS

1972

AAWB

ANNUAL

PROFESSIONAL LIBRARY
AMERICAN PRINTING HOUSE FOR THE BLIND
LOUISVILLE, KENTUCKY

362.41
amer3
1972

154

BLINDNESS

1972

AAWB

AMERICAN ASSOCIATION OF WORKERS FOR THE BLIND, INC.

ANNUAL

DEC 1 1973

PROFESSIONAL LIBRARY
AMERICAN PRINTING HOUSE FOR THE BLIND
LOUISVILLE, KENTUCKY

1511 K Street, N.W., Washington, D. C.

708

The opinions expressed in articles appearing in BLINDNESS are those of the authors thereof, and do not necessarily reflect those of the American Association of Workers for the Blind.

Copyright, 1972, by the

American Association of Workers for the Blind

Library of Congress Catalog Card Number: 64-24006

Printed in the United States of America

Washington, D. C.

PREFACE

BLINDNESS 1972 is the ninth issue of an annual published by the American Association of Workers for the Blind under a training grant from the Rehabilitation Services Administration, Department of Health, Education and Welfare. It is designed to provide a forum for important and timely articles – with depth – in our own field and in related fields. Experts in the many categories of work with blind persons are commissioned to conduct the essential research and prepare the articles so that their continuing value will be assured.

Copies of BLINDNESS 1972 are distributed to members of the Association as a function of membership. The Library of Congress, Division for the Blind and Physically Handicapped, will make the annual available through regional libraries in both braille and recorded form.

Digitized by the Internet Archive
in 2019 with funding from
American Printing House for the Blind, Inc.

https://archive.org/details/blindnessaawbann1972amer

TABLE OF CONTENTS

Dedication to MARY ELIZABETH SWITZER viii

Chronicle of the American Association of Instructors of the Blind 1

FRANCIS M. ANDREWS, DL.H. *is a former Superintendent of The Maryland School for the Blind, Baltimore, Maryland, and a Past President of AAIB.*

C. WARREN BLEDSOE *is Principal Consultant, Office for the Blind and Visually Handicapped, S.R.S., Department of Health, Education and Welfare, Washington, D. C.*

. . . and the Blind Man on the Corner Who Sang the Beale Street Blues 71

GEORGE G. MALLINSON, Ph.D., *is Dean, The Graduate College, Western Michigan University, Kalamazoo, Michigan.*

JACQUELINE V. MALLINSON *is Professor of Science Education, Western Michigan University, Kalamazoo, Michigan.*

Doctor's Office Goes Mobile 95

PAUL C. O'NEILL *is Director of Public Relations, The Canadian National Institute for the Blind, Toronto, Ontario.*

Cognitive and Psychosocial Aspects of Mobility Training 99

RICHARD L. WELSH, *an Orientation and Mobility Specialist, is a Doctoral Student in Rehabilitation Counseling, University of Pittsburgh, Pittsburgh, Pennsylvania.*

Some Effects of Changes in Library Services for the Blind and Physically Handicapped 111

CHARLES GALLOZZI *is Assistant Chief, Division for the Blind and Physically Handicapped, Library of Congress, Washington, D. C.*

Procedures for the Activation of an Orientation and Mobility Program **117**

DANIEL N. HEAD *is Orientation and Mobility Specialist, The Maryland Comprehensive Rehabilitation Center, Baltimore, Maryland.*

U. S. Government Sponsored Research to Study Blindness—1972 Supplement **129**

This is the eighth supplement sponsored by the Office for the Blind and Visually Handicapped, S.R.S., Department of Health, Education and Welfare.

Psychological Testing and Blindness—A Retrospect **177**

MARY K. BAUMAN *is Director, Personnel Research and Guidance, Philadelphia, Pennsylvania.*

A History of the Typewriter in the Education and Employment of Visually Handicapped Persons **203**

DONALD J. WONDERLING, Ed.D., *is Principal, Western Pennsylvania School for Blind Children, Pittsburgh, Pennsylvania.*

BLINDNESS 1972

Editorial Board

Cleo B. Dolan, *Chairman*
Mary K. Bauman
Bruce B. Blasch
G. D. Carnes
Charles Gallozzi
Charles E. Hallenbeck
Marjorie S. Hooper
Berthold Lowenfeld
Douglas C. MacFarland
George G. Mallinson
Clayton A. Morgan
Paul C. O'Neill
Patricia S. Smith
George Werntz, Jr.

C. Warren Bledsoe, *Principal Consultant*

John L. Naler, *Executive Director*, AAWB
Judith R. Nail, *Editorial Consultant*

Mary Switzer, at her retirement dinner, with Secretary Marion Folsom, the first Secretary of HEW under whom she served. Both were of the old Treasury elite and always introduced each other as "fellow alumni."

DEDICATION TO MARY ELIZABETH SWITZER (1900-1971)

This issue of BLINDNESS is dedicated to its indispensable first friend in power, Miss Mary Elizabeth Switzer, who, with the titles of director, commissioner and administrator, was in command of the rehabilitation programs of the Department of Health, Education and Welfare for twenty years.

Of Miss Switzer's honors and doctor's degrees nothing need be said here. How well deserved they were can best be appreciated by considering the resources for the rehabilitation of the blind which owe their existence to financial support from the budget she administered, and administered very personally. Not only did she have the final "aye" and "nay" concerning 184 research and demonstration grants made between 1954 and 1970, but many were her ideas in the first place. Concurrent with these innovative projects which were especially dear to her, her administration saw a great expansion of the regular day to day vocational rehabilitation service under State-Federal matching funds, resulting ultimately in tripling the number of yearly rehabilitations of blind clients.

It was a grant from the Vocational Rehabilitation Administration made while Miss Switzer was commissioner which furnished the editorial board and editor which made the series of AAWB's BLINDNESS possible. And it was also upon her recommendation of AAWB that Miss Isabella Diamond was persuaded to become the first editor of BLINDNESS.

Miss Diamond gave the annual its publication style, its policy of respect for personality as the most important leverage in the rehabilitation process and expression of that respect by revitalizing history and biography in the literature of blindiana. This dedication to Miss Switzer is also a salute to Miss Diamond who, in hundreds of colloquies with workers for the blind and with Miss Switzer, made a unique contribution to understanding between the source of power and the grass roots. Miss Diamond also brought wit and wisdom to the task of making writers out of dedicated men and women of action in the field of work for the blind, more concerned with what they were doing than in recording it. BLINDNESS is probably the only publication in the rehabilitation field to have a founding editor with a Bryn Mawr sense of humor, the looks and manners of a marquise under the old régime and an awareness of what is going on in the world which rivals *The Washington Post.* No one ever learned more about work for blind people faster than Miss Diamond, and blind people never had a stronger advocate than she with Miss Switzer, already a converted advocate herself, for the value of whose counsel six Secretaries of Health, Education and Welfare vouched with emotion at her retirement.

One of the questions most often debated in the field of work for the blind is the question of the "general" versus the "categorical" agency for the blind. One aspect of this subject is seldom given the emphasis it should have, namely the magnitude of the demands a program of work for the blind makes on the time and attention of the administrator of a general program.

Sooner or later blind people in the United States want to sit down and talk with people at the top of programs for them, and they do. It is an old American custom, stronger than law. And when they talk they expect the same consideration from the head of a general program as they receive from the head of a categorical one. Finding this out, administrators of general programs may well be tempted to throw up their hands and barricade themselves behind their palace guards. Years ago in Washington some of them did this. When they did, it was put on the tom-toms of work for the blind all over the land, and another adverse mark was chalked up against the general agency concept.

It was one of the extraordinary aspects of Miss Switzer's administrative genius (and let us now say it *was* genius) that she could as the years went on say a good word for the general approach without losing the affection of workers for the blind. Perhaps this was because her example came near to an impossible ideal, not only in the time she gave to all her work, but the amount of thought and action she managed to pack into the time she gave to work for the blind.

In a sense Miss Switzer was always working when she was not sleeping. When people came to think of it afterwards, they realized that at her most charming, in social situations, rarely did five minutes of conversation not fit into what she once called "conniving for the good of the world."

It was much more than "conniving." Beyond her tactics her ethical and moral statecraft had a remarkably consistent and durable strategy. This is not to disparage her tactics or her efficiency in details. When she wrote one of her brief notes, it came out right the first time. She could think of hundreds of ways of saying to hundreds of people, "I am *here.* I know you are *there.* I expect your *best.*"

There is no aid to concentration like sincerity of purpose, and hers was not only impressive in her clear blue eyes, invisible to her blind friends, but in words they heard her speak, while backing up those words with action. This was sometimes a little breathtaking, as when, after ten minutes of conversation with a brilliant young hopeful, she arose, went to her telephone, dialed numbers herself, loosened red tape and got him a job offer (not in her agency). She was also perfectly agreeable when she found it was not to his liking and went on to open a second door and a third. Another individual, watching her similarly engaged at the end of a long business day, said, "Why, she *works* . . . works as hard as her office force." Increasingly as she grew older her patience with those of "tender years" was exceptional.

One of the officials of the Bureau of the Budget, himself visually handicapped, said, "She's tough! That means we respect her over here." An interesting aspect of her later years was the way in which male egos around her, which had once been a little (or more than a little) restive with a woman administrator, quieted down and became her believers with this concept of "toughness" as a main article of faith at first. The "toughness" consisted mainly of her remarkable command of fact, especially where columns of figures were concerned, as when she was going through a budget with a congressional committee and turned to a particular congressman, saying, "And this means $246,000 will come to your state."

"Isn't it nice," said he, obviously warmed, "to do business with an old pro?"

The profession she practiced was a modern version of the ancient and honorable profession known as statecraft, which we would do well to honor, study and sustain. We have not, and do not want, a hereditary governing class in this country or in other countries. But it is crucial to have the kind of devotion to government which legend has associated with certain hereditary governing classes. Anything which our educational or social system can do to produce that devotion should be cultivated with every resource at our command. Miss Switzer had no match in quality, if not in quantity, for infecting the young with devotion to causes. She acted on cynicism as penicillin does on bacilli.

One day after she had retired she agreed to give a kind of morning seminar to three young rebels who had come to Washington not "for to admire and for to see" but "to disparage and to ignore."

Her first words to them were, "Well, boys, when the revolution comes, we've got to be ready for it."

What she meant by "ready" she did not say. The dialectic and what to do about it, however, she had pondered longer ago than the year before. Like Justice Holmes she had been over it with Harold Laski who, while he was exchanging letters with Holmes, was one of Miss Switzer's instructors at Radcliffe. However, this had never stopped various administrations from trusting her with virtually any responsibility she was willing to undertake, from keeping the lid on germ warfare during World War II to managing a budget of seven billion dollars two years before she retired.

On that morning late in her life, talking with the young, and listening to them, she apparently made nothing of her old acquaintance with revolutionary theory. Instead, figuratively she led her preceptees out onto the barricades, gave them an airing, then brought them back in again to the more realistic arena, having props of in-baskets, filing cabinets and telephones, sweat, tears, and laughter, but no blood. Finally she said she was a member of the establishment and a bureaucrat, leaving her visitors a little mystified by the extraordinary being she was, but convinced that if all bureaucrats were like her, the world might yet be saved. More than that, she made them feel she liked them and understood how they felt.

In 1967 Miss Switzer addressed the graduating class of the Perkins School and said, "One of the things to keep in mind is that there is no magic to training people for particular jobs, no matter what their capabilities or handicaps may be. It is a question rather of taking the trouble to find out what is truly suitable for people with all kinds of differences; not merely what is available, but what is within the individual's capacity. What does he want to do? What does he flourish doing? What has the greatest chance of making him glad to live with himself?"

It mattered to her very much whether young people were glad to live with themselves and also within the country which had bred them.

That same day at Perkins she said, "From the great globe in the hall, which was touched by Dr. Howe and Laura Bridgman, there are constant reminders that go back to a founder with a special kind of genius that warmed everyone around him to his causes.

"As you have touched the things which they touched, it brings the great past very close, especially as we remember that it was Lafayette himself who admonished Howe to

come back to America and look after American liberty . . . There is everything in the United States; and all of us – far more than we realize – are inheritors of treasures which have come from the brave, the faithful and the useful."

There was one thing Miss Switzer undoubtedly hoped her friends and colleagues who cherished her example would do in her memory when she was no longer with them. This was to carry on in her name the education of the young to greatness, sparing no pains. The one gift which she especially valued on her retirement was an award to go to young government officials . . . for innovation, a word of which she was never afraid. It always made her eyes a little brighter, and some people even said a little bluer, when she heard it. And the faithful counselors who sometimes stayed her hand had to raise very good objections, and do it very early, if they thought it was crucial to prevent action.

At Miss Switzer's retirement dinner each guest received a small card with the seal of the Department of Health, Education and Welfare, her signature and the message, "Life is faith and love, but most of all *hope*."

Capable of understanding the most complex and sophisticated ideas, she always returned to the simple and universal, applicable to all mankind. Indeed in one sense she was a universalist in the same sense that Lincoln was, believing that God intended the salvation of all mankind.

Someone suggested that she should read Epictetus once, and a copy of his sayings was unearthed and given to her. When it was returned to the owner in recent weeks, in the midst of the complex ideas of the stoical old Ethiope Greek, a book marker was found which said, "Prayer is the balm for every wound."

Frequenters of Miss Switzer's office were often a little astonished to see a prayer which she had had framed and displayed for all to see. It was by an old Roundhead, Sir Jacob Astley, before the battle of Newbury, and it said, "Lord, I shall be verie busie this day. I may forget Thee, but doe Thou not forget me."

Once she told a friend her favorite benediction was, "O Lord, support us all the day long, until the shadows lengthen, and the evening comes, and the busy world is hushed, and the fever of life is over, and our work is done. Then in Thy mercy grant us a safe lodging, and a Holy rest, and peace at the last. Amen."

Many there are who would like someday to be assigned to whatever "mansion" is now her safe lodging.

Young Dr. Samuel Gridley Howe, who, prior to the existence of AAIB, was "authority in the United States on the subject of blindness."

CHRONICLE OF THE AMERICAN ASSOCIATION OF INSTRUCTORS OF THE BLIND

By Francis M. Andrews, DL. H. and C. Warren Bledsoe

"Nor does it matter at all to the dead whether they receive justice at the hands of succeeding generations. But to the living, to do justice, however belatedly, should matter."

Garrett Mattingly

Before long, if it is not already the case, there may be a generation of workers for the blind unaware that AAIB once stood for the American Association of Instructors of the Blind and that this body changed its name in 1968, becoming the Association for the Education of the Visually Handicapped. Without attempting to describe or define the role of its present incarnation, it is the purpose of this chronicle to show the part the old AAIB played in the development of work for the blind in America. The functioning of its influence is at least interesting, but more than that it sheds light on the nature of many of our modern institutions and practices with respect to blind children and youth. For many years after its beginning it was the only national association which met regularly and published substantial proceedings concerning practices and principles with respect to blindness.

From the beginning, however, AAIB was far more than meetings or publications. Like the United States Senate it had some of the characteristics of a peculiarly exclusive club; and like the Senate it produced a type, in this case the educator of the blind. What members of the club did acting as a group, though hundreds of miles apart (without telephones), formed the most remarkable mechanism of their force in their own day, and the importance of their lives as they are looked back upon.

The charter members were austere, tending to be stern, scrupulously honest, frugal, but interested in the experimental. They had inquiring minds. They could hardly have been interested in anything so new and strange as education of the blind, had they been intellectually hidebound. They also had one trait in common which is admirable in people with a "cause." They were remarkably free from sentimentality.

Such were the distinguishing characteristics imprinted on their profession by the first generation of pioneer educators of the blind in the United States, those born near to 1800 and not later than 1820: Dr. Samuel Gridley Howe of Massachusetts (1801-1876); Dr. John Dennison Russ of New York (18??-1881); Julius Friedlander of Pennsylvania (1803-1839); William Chapin of Pennsylvania (1802-1888); and William Churchman (1818-1882), who opened the doors of residential schools for the blind in Tennessee, Indiana and Wisconsin. Though getting on in years by the time the Association acquired a

constitution (in 1871), four of them (Howe, Russ, Chapin and Churchman) were present at the conception of the organization (in 1853), and three (Howe, Chapin and Churchman) were attending its birth 18 years later – Howe as a reluctant, rather patronizing obstetrical consultant, who did not come in person to the bedside, and Churchman as the beloved family physician who delivered the child. Though they were found disagreeing, even over whether the fetus should be aborted (Howe thought it should), they were nonetheless two of the kind which was to dominate the Association for years – paternal, even autocratically paternal, but held to earth by common sense and foresight. They were visionaries with their feet on the ground. Thereby they carried education of the blind many a weary mile.

The actual "first" (1853) general meeting of American educators of the blind did not figure in the early numbering of AAIB conventions. Neither did the 1871 meeting which gave the Association its constitution and name figure in the counting. This apparently was because the constitution was not adopted until the end of the meeting. Official numbering starts with the 1872 meeting, which was counted as the first by its members. An 1874 meeting was counted as the second. However an 1876 meeting was numbered as the fourth in its Proceedings, to include the 1871 meeting retrospectively, but not the one held in 1853. Indeed the latter meeting was consistently excluded from the count until 1944 when a sense of history overtook the convention which elected to call itself the 37th rather than the 36th, allowing a slot out of turn for the 1853 meeting. It was of course impossible to renumber Proceedings, and for the historian a certain amount of confusion is best dealt with if meetings are identified by year and place of occurrence and numbered to include the 1853 and 1871 meetings. This will not agree with titles of the Proceedings as listed in the Appendix.

Unnumbered though they have been, both the 1853 and the 1871 meetings should be regarded as part of the AAIB history. Perhaps with organizations as with people, it may be argued that conception, gestation and birth should not be considered part of age, but certainly they are a part of life. And even a record-breaking eighteen years of gestation in the case of AAIB did not obliterate the striking likeness of the 1853 meeting to those which followed, engineered as it was by the same institutions and some of the same individuals.

The Proceedings of the pre-constitution meetings are arresting to this day for their remarkable clarity as a blueprint to the problems at least of educating blind youth. They also tell a great deal about the educators who undertake to find solutions to those problems and are drawn together by having no one at home to whom they can talk as one professional to another. The compelling force of loneliness in an unusual occupation, an occupation which many people do not even want to think about, has accounted for much traveling in work for the blind. This was never better illustrated than by the arduous journeying of the delegates to the 1853 convention.

Although it was possible to get places by rail in the year 1853, it was undoubtedly either a very great bother or an adventure, depending on temperament. The United States had a mere 15,360 miles of track with certain crucial links added only that year, such as that which formed a continuous line between Boston, New York and Chicago, hooked in a roundabout way with roads in Ohio. Also just completed were lines which linked the Virginia railroads with North Carolina, South Carolina and Georgia, the latter two states having been pioneers in this mode of travel. There were trains to ride on, but to some extent travelers took their lives in their hands when they boarded them. They also got many cinders in their eyes. Yet there foregathered at the 1853 convention in New York men from Massachusetts, Pennsylvania, Illinois, Virginia, Tennessee, Indiana, Wisconsin, Louisiana, Iowa, Georgia, Missouri and Maryland.

They brought with them the freshness of pioneers. None of the schools they represented was as much as three decades old. Two had gotten under way that year. Two had been in operation only one year. Nearly all at the meeting were fresh from that experience which so surprised, exhilarated (and also misled) Valentin Haüy: "We brought the blind children together. The problem was apparent. The problem was solved." How exciting for those who had had some such experience together with others who had had it, to play the game of "We-have-a-child-who-can—" and in the presence of the great Dr. Samuel Gridley Howe!

1853

The "Unnumbered First" or "Pre-Constitutional" Convention

Place: The New York Institution (now Institute) for the Blind

President: Samuel Gridley Howe (1801-1876), Vice-President of AAIB (1872-1874); Director, the Perkins Institution and Massachusetts School for the Blind (1832-1876)

Recording Secretary: T. Colden Cooper, Principal, the New York Institution for the Blind

The report of the Proceedings of this 1853 meeting is sufficiently succinct and laden with fundamentals to be the foundation of this chronicle. For this reason it is reproduced hereafter verbatim, whereas of succeeding meetings only highlights showing innovations will be given, together with such commentary as seems appropriate.

> At the New York Institution took place, during the last vacation a convention of superintendents and teachers of the blind. This was the first meeting of the kind ever held in the United States. Delegates from fourteen different states were present; two only, having Institutions for the Blind, were unrepresented. The occasion was one of grateful interest to the philanthropist. It must be recollected that many of these states were new and thinly settled, and only a few years since the scenes of savage life, with its selfishness, and its destitution, and its hard fate for the afflicted of nature. There are now buildings, among other works of public benevolence, commodious schools and workshops for the blind, suitable not only for the present, but for the future need. This is the development of the great principles of Christianity, bearing fruit to the very limits of civilization. Many of the gentlemen having charge of these young establishments are themselves blind, and graduates of the sister Institutions of the Eastern States.
>
> The immediate object of the convention was to make application to Congress for a donation for a permanent printing fund for the use of the blind. The narrow means of the State Institutions, the cost of printing where the demand is necessarily so limited, the need of concerted efforts and of uniformity of type and execution and the fact that the blind are shut out of the system of public instruction to which the general government has contributed so largely by grants of public lands, seemed to render this our natural and just resort.
>
> This convention was held on the 16th, 17th, and 18th of August, 1853, and was called to order by William Chapin, Esq., of Philadelphia, who nominated T. Colden Cooper, Superintendent of the New York Institution, as Chairman pro tem., and James S. Brown, Esq., of Louisiana, as Secretary.
>
> All Superintendents of Institutions for the Blind, and Teachers of the Blind in such Institutions, were declared entitled to seats in the convention.
>
> The following gentlemen were then appointed the permanent officers of the convention:
>
> President Dr. S. G. Howe
> Secretary T. Colden Cooper

The delegates present were: S. G. Howe, Director, Perkins Institution, Mass.; William Chapin, Principal, Pennsylvania Institution; T. Colden Cooper, Superintendent, New York Institution; R. E. Harte, Superintendent, Ohio Institution; Dr. J. Rhoades, Superintendent, Illinois Institution; Dr. Merillat, Superintendent, Virginia Institution; J. M. Sturtevant, Superintendent, Tennessee Institution; W. H. Churchman, Superintendent, Indiana Institution; C. B. Woodruff, Superintendent, Wisconsin Institution; J. S. Brown, Superintendent, Louisiana Institution; Samuel Bacon, Principal, Iowa Asylum; Henry Dutton, Principal, Georgia Institution; Edward Wheelan, Superintendent, Missouri Institution; David Loughery, Principal, Maryland Institution; B. W. Fay, Teacher, Indiana Institution; A. Reiff, Teacher, New York Institution; J. W. Bligh, Teacher, New York Institution.

Invitations were extended to Messrs. Russ, Jones and Chamberlain, former Superintendents of the New York Institution for the Blind, and Mr. E. W. H. Ellis, Trustee of the Indiana Institute, to attend the meetings of this convention and to share in its deliberations.

The convention then proceeded to business, and discussed the several resolutions and propositions submitted by the committee or by individuals. An animated debate ensued, in which several blind persons, educated in the various Institutions, took prominent parts, and gave proof of their talents and acquirements.

The following resolutions were finally adopted, as expressing the views of the convention:

Resolved, That, whereas most of the States of the Union are provided with Institutions for the Education of the Blind, this convention, representing such Institutions, recommend the following resolutions;

Resolved, That a permanent provision in aid of the education of the blind, and for a suitable library in the raised letters, should be regarded as a subject of national concern.

Resolved, That, as Congress has appropriated large portions of public lands for general education, from the benefits of which the blind have been and necesarily are excluded, their claim for a portion of the proceeds of these lands to aid in their education is both just and reasonable.

Resolved, That a memorial in behalf of the Institutions for the Blind in the United States be presented to the next session of Congress, asking for a national aid by an appropriation of public land – a portion to be equitably applied to all the States for the Education of their Blind, and a portion for a specific fund for printing books in raised letters.

Resolved, That Messrs. Howe, Chapin, Cooper, Brown, and Churchman be a committee to prepare such a memorial, previously to the 1st day of January next.

Resolved, That it will be expedient for a delegation of pupils from several Institutions to visit Washington on the presentation of the memorial, to give public illustration of the success of the system of instructing the blind.

Resolved, While this convention would not discourage the use of any type or character now in existence, they decidedly recommend a uniform type or letter for all future publications for the blind.

Resolved, That the "Boston Letter", so called in which the great bulk of the books for the blind have been printed, be preferred as the standard type for all the future books printed for the blind, subject to the amendments proposed in the following resolution.

Resolved, That a committee of three, including the president of this convention, be appointed at this meeting to examine the "Boston Letter", to ascertain whether any alterations in any of said letters be expedient, and if so to recommend its general adoption.

Resolved, That a committee of three be appointed by the chair, to consider upon and report to the next convention a plan for the publication of a periodical expressedly devoted to the advancement of Education among the Blind.

Resolved, That such committee, if they find it practicable to procure the publication of such periodical as a private enterprise, be authorized, in behalf of this convention, to secure the commencement of the same under their own general supervision.

Resolved, That in the event of the commencement of such publication, the instructors and pupils in all existing Institutions for the Blind, be invited to contribute to its columns.

Resolved, That a committee be appointed to correspond with the "American Bible Society" with a view of obtaining from said Society a copy of the New Testament and of the Psalms for every blind person who shall present to them a certificate of the principal of the institution where he or she was educated, that he or she can read, and is unable to pay for such book.

Resolved, That this convention does not approve of the recent method of binding the Bible for the Blind, by the "Bible Society" which unites the leaves so as to present the printing on both sides of the leaf, and accordingly suggests the expediency of the Bible being bound as formerly, and that a copy of this resolution be sent to the officers of the "Bible Society."

Messrs. Wheelan, Churchman and Sturtevant presented a report upon Mr. Mahony's system of musical notation, which after some debate was adopted by the convention.

Resolved, That this convention recommend to the various Institutions for the Blind, and to all blind persons interested in the subject of music, the new system of notation devised by Mr. C. Mahony, as possessing many advantages.

Resolved, That Mr. Mahony merits the encouragement of this convention in his laudable efforts to supply this desideratum in the Education of the Blind.

The question of discipline in schools for the blind was discussed at some length, and it was remarkable that all speakers who were blind insisted that blind children should be subjected to an equally strict discipline as seeing children. It was finally

Resolved, That the fact of blindness should make no difference in the discipline of children.

A highly interesting debate followed on the necessity of connecting manufacturing departments with all Institutions for the Blind, and it was

Resolved, That in the opinion of this convention every institution should offer employment to all its graduates of good moral character.

It was then resolved that a committee be appointed to call another convention of superintendents and teachers of the blind, and that in such convention each institution shall be entitled to but one vote.

Mr. Churchman was invited to furnish to the next convention an essay upon the best plan of public buildings for the blind.

The thanks of the convention were then offered to the directors, superintendents and other officers of the New York Institution for the Blind, for the hospitalities tendered, and courtesies shown the members of this convention during its session.

In this document we see that the convention wrote into its record a very considerable list of perennial items of policy, practice and concern:

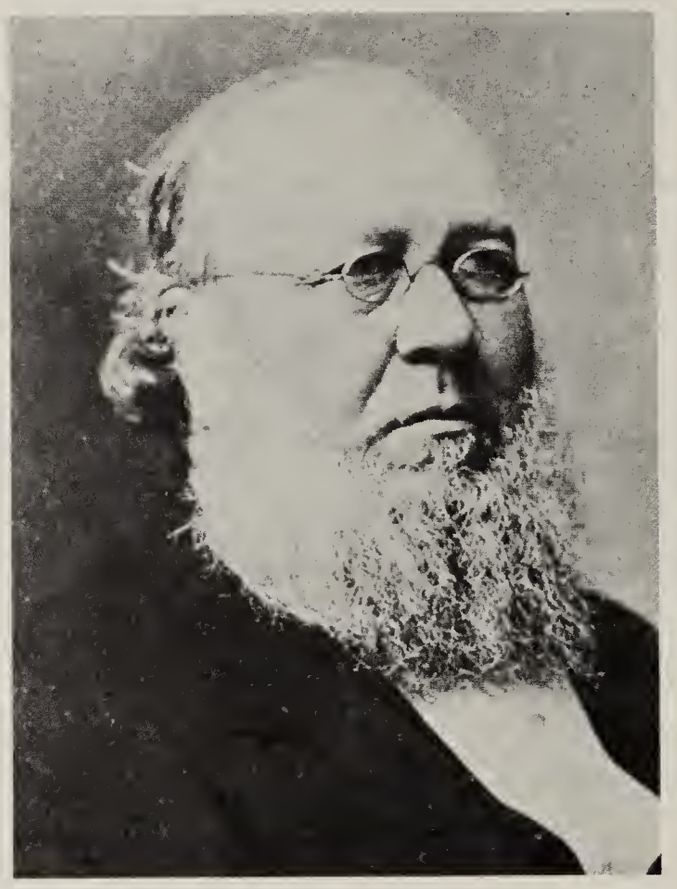
1. National responsibility for producing embossed books and federal funds to provide other educational resources.
2. Demonstration of the capacities of blind children by showing their performances to public officials.
3. The approval of a standard embossed type, but research for an improved system.
4. The necessity for a periodical concerned with blindness.
5. The approval of a standard system of musical notation.
6. Discipline of blind children as exacting as that applied with sighted children.
7. Responsibility for finding employment for graduates of schools.
8. The question of ideal architecture.

But . . . .

Interregnum

Eighteen years were to pass, as has already been said, before another such meeting took place, and since the next gathering was to bear a striking resemblance to the first, it is possible to look on this time as a period of gestation. However, it was not without its hazards, one of which was undoubtedly the widespread social upheaval occasioned by the Civil War. Another was to emerge in the opposition expressed by Dr. Samuel Gridley Howe when William Churchman decided that the gestation period should end and sent out the following questionnaire:

1. Shall we have a convention?
2. Where shall it be held?
3. Shall the call be for superintendents alone; superintendents and teachers, or superintendents, teachers and trustees?
4. Shall Mr. Ruggles be invited?
5. Shall essays on appropriate subjects be solicited?



William Henry Churchman, "the preserver, if not the creator, of the AAIB."

This action alone made Churchman the preserver, even though he was not the creator, of AAIB. It is a great pity that we do not know more about this man, for he pioneered in the education of the blind in Tennessee, Indiana and Wisconsin. Blind himself, he was the first teacher of Sir Francis Campbell, who always considered him the

best teacher he had ever had. Years after Churchman died, Edward E. Allen wrote in the *Outlook for the Blind* (facing a picture of him*):

William Henry Churchman

The cut of Mr. Churchman accompanying this sketch was made from his portrait now hanging at the institution in Indianapolis, a school which more than any other organized and planned by him, was peculiarly his own. He planned its buildings and was head of it for twenty-five years.

This portait does not look as though he could not see, and yet he had been totally blind from his seventeenth year; . . . not too late, evidently, for him to turn his physical liability into an intellectual asset. Born in 1818 to Quaker parents of the State of Maryland, he received his early schooling as a seeing boy with gradually failing eyesight; his latter schooling, as a totally blind student at the Philadelphia institution, entering in 1836 and coming under the influence of Friedlander.

He started out in life as a private teacher of music and was for a short time instructor of music and mathematics at Columbus. Next we read of him as successful head of the institutions at Nashville, Indianapolis, Janesville, again Indianapolis, and between whiles as superintendent elect of the institution which the State of New York was about to start at Binghamton. For when in 1866 the Trustees of that projected school were visiting around to find the man best fitted to be their executive, they selected Mr. Churchman, then at Indianapolis, giving him to understand that this would be a chance to found an institution according to the cherished wishes of his maturity. Through an unexpected turn, he never actually took charge; but what his ideals and ideas were, he wrote out at length. They will be found in the first annual report of the Batavia Institution series. They are simple and yet philosophical and should be read and considered by all educators of the blind.**

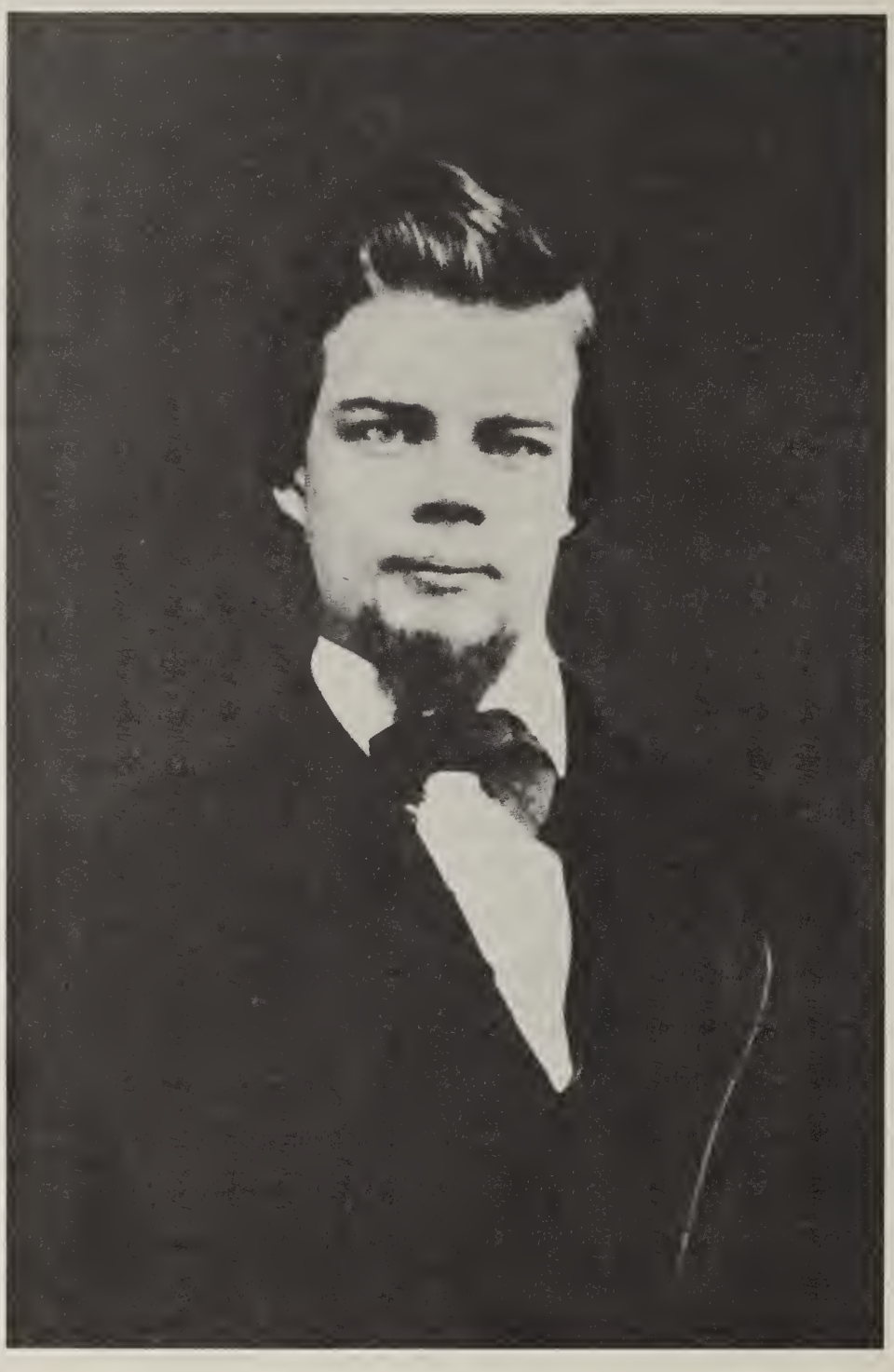
One other thing we should mark well about William Henry Churchman. When his circular letter went out, he encountered a definite reluctance to have the meeting from Dr. Samuel Gridley Howe, and the second meeting of educators of the blind occurred nonetheless, though without the presence of Dr. Howe. It appears at this stage the period of gestation might well have ended in abortion, judging from the sentiments of Dr. Howe, delivered by letter in absentia. To realize how much this mattered, we must recall that prior to the existence of AAIB authority in the United States on the subject of blindness was to an extraordinary extent one man, and that man was Howe. His word could reverse public opinion against nearly anyone who differed with him where the education of the blind was concerned. He had fashioned the Perkins School. He had lobbied for schools for blind children in twelve other states beside Massachusetts. He had invented the Boston Line Letter embossed type. He had taught Laura Bridgman, a deaf-blind child, making her a member of the human family by penetrating her consciousness with the manual alphabet, and he had gotten Charles Dickens to write about it in a way which let the civilized world know exactly who Howe was and what he had accomplished. With all this he had a charisma outside education circles as an active, practical and successful liberator of the oppressed, starting with the Greek nation and eventually including American slaves. A born leader, he was also the kind of leader who was a congenital, charming – even dangerously charming – autocrat, the kind of autocrat indeed who can bathe himself in principles of representative government every morning with his cold bath all his life, yet die, be buried and resurrected an inveterate absolute monarch in his field, commanding not by will, but by wish.

Only time can defeat such a man, and AAIB came into being in part because time was running out for Howe. There was one sure sign of this. His Boston Line Type had become old-fashioned and he did not know it. But he knew his authority was being disputed by Mr. William Wait. He had branded all point systems of reading "Choctaw";

---

*This same picture is shown on page 6.

**The same treatise, clipped of a few descriptive paragraphs, may be found in the Indiana Institution's annual report for 1867.



Young Mr. William Bell Wait, who challenged the Boston Line Type of Dr. Samuel Gridley Howe with New York Point.

nonetheless, Mr. Wait had devised and was actively promoting such a system, which Howe regarded as a fresh example of methods which isolate blind people from the ways of the seeing to their detriment. He was especially sensitive in this regard because he had recently been through a bitter struggle in his own school between the revolutionary Francis Campbell and his old "regulars" at Perkins. Also he was disenchanted with the emotional winds and currents of a "closed" society, especially since he himself had been having an invigorating time as consultant-at-large during the war years, giving advice on nearly everything medical to the largest winning army in history. To Mr. Churchman regarding the 1871 convention he therefore wrote:

> When we gather children from all parts of the state, to be educated together in a special institution, we make salient their points of differences from their fellows; and unless we are very careful, we increase that difference. We must beware, lest we sow some tares with our wheat; lest we begin a process of social segregation; lest we sequestrate them socially. We must not form them in a class. We must not create a spirit of caste. We must not lessen the force of their relations with ordinary society and encourage the growth of relations founded on community of physical conditions.
>
> Even the supposed necessity for holding this convention, shows the truth of the principle I have set forth. The great advantages which may flow from it, will be lessened by the fact that it countenances the idea that there is a greater difference between those that see, than really exists. It will do so at least in the public mind, and that in itself is disadvantageous.

Still the convention met.

1871

The Second "Unnumbered" or "Constitutional" Convention

Place: Indianapolis School for the Blind

President: William Chapin (1802-1888), Principal, Pennsylvania Institution for the Instruction of the Blind; again President of AAIB (1874-1876)

Vice-Pres.: W. H. Chapman (Indiana)

Recording Secretary: S. A. Knapp (Iowa)

Board Members: Wait (New York), Little (Wisconsin), Parren (Kentucky), Morrison (Maryland), Lord (New York)

We have not previously commented on the curious nature of the question in William Churchman's questionnaire: "Shall Mr. Ruggles be invited [to this convention]?" From the proceedings it is apparent that he was very much a thorn in the flesh to some present; to others he was an answer to the blind reader's prayer. The latter group held in high regard his experience as a printer of embossed books and regarded even higher his subsequent financial success in business.

Concerning him, Howe wrote:

> Someone has endeavored to produce the erroneous impression that I am not disposed to have the several institutions to accept Mr. Ruggles' offer. A garbled extract from one of my letters has been circulated which strengthens this impression; whereas, if the whole had

been introduced, no such impression could have been made. His first proposal seemed to imply the abandonment of the several existing printing offices, and the use of his alone. As we had just built a new and costly press, greatly superior to the so-called Ruggles press, I answered that the proposal came too late for us. I intended to go on printing on our new press; but I was and I am disposed to avail myself, in behalf of our institution, of all the help he will give to the blind. I confess I do not fully understand how far he intends to give any gratuitous help, beyond that of his own time and advice. For one, I shall be thankful for so much, because he is an ingenious man and skillful mechanic; he was employed by me as such, several years, and rendered me valuable assistance. With natural self-esteem, he overrates the importance of the work which he did under my direction, and supposes he was planning and inventing methods, while he was only contriving mechanical appliances to carry out methods devised by others. If this innocent delusion gratifies him, let him indulge in it. I shall be duly thankful if he will give his time and talents, as he offers to do, in directing a printing office for the blind. If he will do more, if he will really give any money or any books to the blind, he will have my hearty applause. I am ready to cooperate with other superintendents in any feasible and wise plan for increasing and cheapening the books for the blind, and to avail myself of the liberality which Mr. Ruggles or anybody else may extend towards it.

Wholly unambiguous were the thoughts of the delegates with respect to one Dempsey B. Sharrod. Blind himself, he was promoting a printing press for the blind and a university for them as well. He was highly condemned by many of the leaders because for a number of years he had been soliciting funds for the above enterprises and had nothing to show for it. He had even used the names of many of the prominent workers on his letterhead without their permission. So strong was the feeling that a resolution condemning Mr. Sharrod for his efforts was adopted and copies of the same sent to the Associated Press. Some even suggested prosecution. Thus firmly this meeting of schoolmasters applied the rod to fraud, giving no quarter because the perpetrator was blind.

There was discussion as to whether or not the blind and the deaf should be educated in the same schools. Those meeting were against this, going so far as to say that the practices in some instances were detrimental to the blind. Thus, for the first time arose a controversial question which was to occupy the attention of educators of the handicapped for the rest of the century and later. An even more serious controversy which was brought up was the so-called "Battle of the Types" which had begun before this meeting, as Wait, who was thirty years Howe's junior, was challenging Howe's Line Type with his dot system, known as New York Point. The discussion of these two systems took an entire afternoon. As this subject was to offer the most severe strain the Association was to bear in the next quarter of a century, it is worthwhile giving the story of its generation thus far in the words of William Wait written in his annual report of 1908.

Immediately after taking charge of the New York Institution in 1863, I made an effort to establish the course of instruction upon a text-book basis, and in this way to enlarge the opportunities of the pupils for reading and study, and to lessen their almost total dependence upon their teachers, who, because of the lack of suitably embossed text-books, were obliged to impart instruction in all branches almost wholly by the oral method.

As a first step, a test of the reading power of each pupil was made, which disclosed that a majority of the pupils were unable to read at all, while only a few could read well.

The system then accepted and in general use was the Boston Line, a form of the ordinary Roman type, and as the only books then available were in that style, an intensive effort was made to impart to every pupil the power of facile finger reading.

This special effort, covering two years, proved that a large proportion of the pupils, including many having excellent mental endowments, were wholly unable to read the Boston Line books, and from data furnished by other schools, confirmed by my own observations, it was clear that similar inability to read existed in all the schools.

But, besides the lack of tangible power, the Roman form was found deficient in two other vital points: it is tangibly unwritable, and cannot be adapted to musical notation.

The conclusion inevitably was that the Roman or Line letters do not possess the three qualities—tangibility, writability and adaptability—essential in a system of embossed literature, and that the problem could be solved only by the adoption of embossed points in both writing and printing.

There was in use in this school at that time, and for some years prior, a point alphabet on a vertical base of six points, arranged by one of the teachers, Mr. Adam McClelland, himself blind, and possessing rare intellectual gifts.

It is a matter of interest that Prof. Louis B. Carll while a pupil learned the system, and afterward used it in writing his great work, "Calculus of Variations." Mr. J. V. Armstrong, Principal of the Tennessee School for the Blind, Mr. Stephen Babcock, for many years a teacher in this school, and many others who were educated here, have largely used Mr. McClelland's arrangement.

It was with this alphabet that my first tests of the comparative tangible power of points and lines were made with pupils who could not read the latter, and which demonstrated the superiority of point signs over line signs.

But while Mr. McClelland's alphabet could be written as easily and appealed to the touch as strongly as any of the vertical systems, it was not adaptable to the structure of a musical notation, and this caused me to take up the original vertical point system of M. Louis Braille.

My examination of the structure and application of this system developed the fact that it is defective in several important respects: it is much more bulky and hence more costly than the Boston Line (which in the absence of any other system was then taken as a standard, and the cost of which was almost prohibitive); the number of possible single signs, *sixty-three*, is inadequate to the requirements of Literature, of Mathematics and of Music, so that none of these subjects can be correctly and fully represented by them.

From anything that could be learned from other sources about the Braille system, the existence of these inherent and grave defects had not been suspected, and when as the result of this inquiry they were disclosed, but one course was left open, which was to devise some different method of sign building, by which the structural defects of the Braille might be avoided, the number of signs greatly increased, and the cost of books reduced to the lowest possible minimum. Obviously, two things only could be done: employ two points instead of three points vertically, and a series of base forms developing horizontally, and holding two, four, six, eight, ten, etc., points each.

With infinite care and labor I put this idea into effect, the final outcome being the New York Point System.

All the facts and data acquired throughout the years of study and laborious experiment that seemed to have no end can be found in full in the yearly reports of this Institution. In the reports for 1866 and 1867 the subject of embossed alphabets and books was generally considered. In the report for 1868 the New York Point Alphabet is given. In this connection it is proper to state that no details of the system were published until after I had stated to Dr. S. G. Howe, of the Boston School, and to Mr. William Chapin, of the Philadelphia School, that I had constructed a system demonstrably superior to that of M. Braille, but that in the interest of uniformity I would abandon any further effort on a new line if they would join me in adopting, improving and establishing the Braille system. My proposal was not received with favor, and I was therefore under no obligations either to adopt or advocate the defective Braille system as against a demonstrably better one, and the New York System was published.

In 1871, at the Indianapolis meeting of the American Association of Instructors of the Blind, the New York and Braille Codes were critically examined and compared, after which the Convention voted without a dissenting voice that the New York System ought to be taught in all schools for the blind.

Other interesting decisions reached were: that the deaf-blind should be educated in schools for the blind, and that the blind be encouraged to seek musical employment and domestic occupations and study commercial, literary or mechanical fields. There was also considerable discussion as to whether the American Printing House should receive the

blessing of the convention. At one point it lost face but the next day recovered and came through somewhat battered.

On the evening of the last day of the convention, the committee set up to plan for a permanent organization submitted the Constitution and By-Laws which were adopted. Thereby AAIB was born. Thus at one and the same time AAIB got its constitution, its most important threat to disunity and a clear view of William Wait, the only leader who was ever to threaten it with domination during a period when it was sometimes to be called "Wait's Convention."

Constitution

Article 1. The Association shall be known as the American Association of Instructors of the Blind.

Article 2. The Association shall be composed of Superintendents of Institutions for the Blind, and one teacher from each Institution, the latter to be chosen by the teachers of the same. Other persons may be elected as honorary or corresponding members, at any meeting of the Association.

Article 3. Its officers shall be a President, two Vice-Presidents, a Corresponding Secretary, a Recording Secretary, a Treasurer, and an Executive Committee, consisting of five members.

Article 4. These officers shall be elected immediately after the adoption of this Constitution, and shall hold office until their successors shall be duly elected. Their duties shall be such as are indicated by their respective titles.

Article 5. This Association shall hold its next meeting during the year 1872, the time and place to be designated by the Executive Committee.

Article 6. This Constitution and the By-Laws may be altered or amended by a majority of two thirds of the members present at any regular meeting.

By-Laws

I. The members of this Association, present at any time appointed for a meeting, shall constitute a quorum for all purposes of general discussion and adjournment. Representations from eight institutions shall constitute a quorum for the transaction of any business.

II. The President, or a Vice-President, or, in the absence of the President and both Vice-Presidents, any member chosen by the majority for the purpose, shall preside at each meeting of the Association.

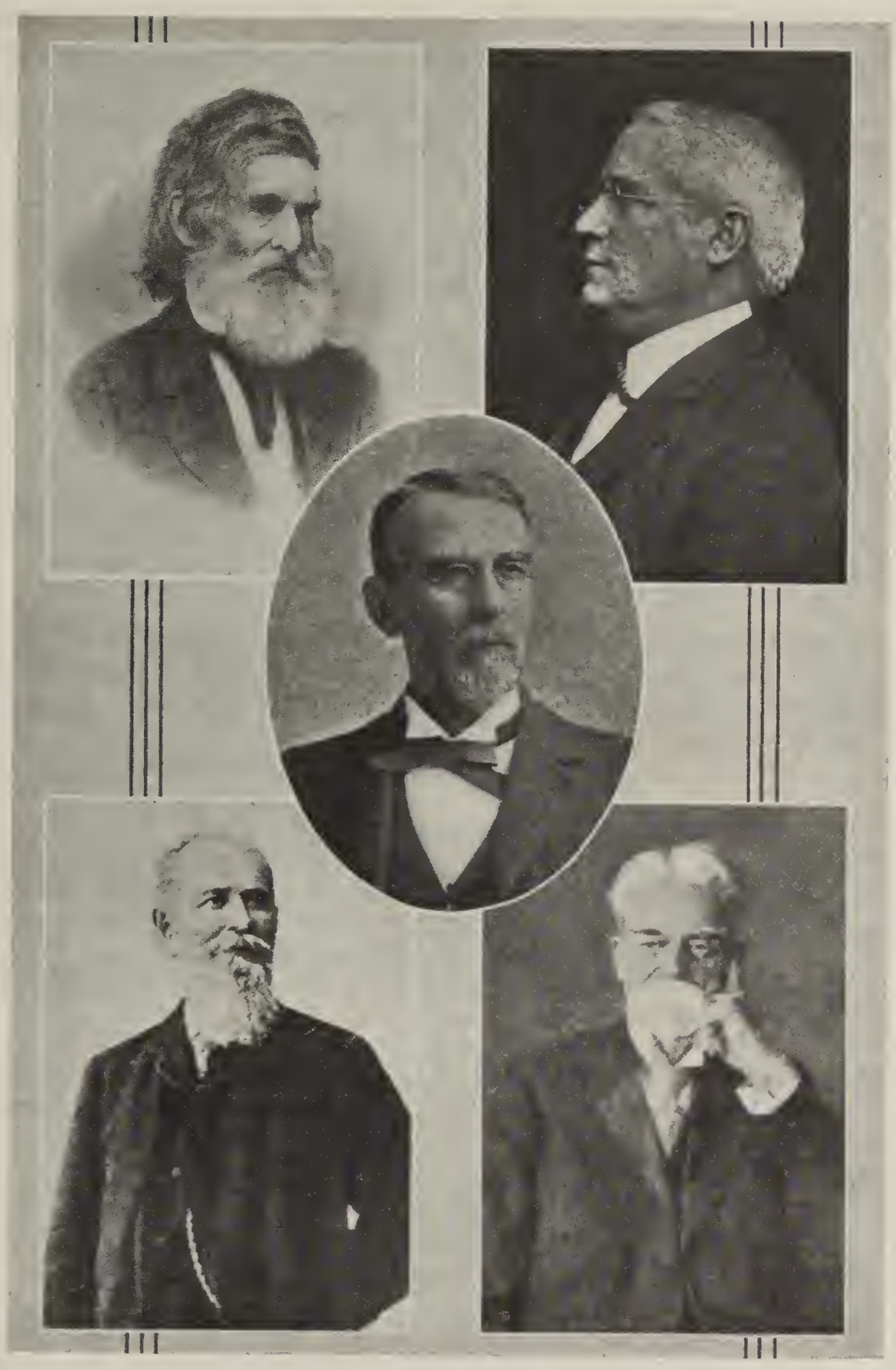
III. The order of proceedings at each meeting shall be as follows:

1. Opening exercises.

2. Reading the minutes of the previous meeting.

3. Unfinished business.

4. Reports from the Executive and other committees.



Upper left, Dr. Samuel Gridley Howe; upper right, Benjamin B. Huntoon; center, Frederick D. Morrison; lower left, Michael Anagnos; lower right, William B. Wait

5. Reading communications.

IV. All committees shall report in writing.

V. All resolutions shall be reduced to writing, and subscribed by the name of the member offering the same.

VI. The Association, in all cases not herein provided for, shall be governed by the parliamentary rules contained in Jefferson's Manual.

Amendments to the Constitution (1872)

Article 2 was amended to read as follows:

First, the Presidents of the Boards of Trustees of the several institutions for the blind, or some member of the Trustees elected by the Board.

Second, The Superintendents for the several institutions for the Blind.

Third, One teacher from each institution, who shall be chosen by the teachers of the same.

LEADERSHIP

Before an attempt is made to sketch the action at conventions subsequent to 1871 a silhouette of the professional experience of the presidents is in order along with their grouping by generations:

FIRST GENERATION
(Born before 1820)

Year President	Other Data
1853	Samuel Gridley Howe, M.D. (1801-1876). Director of the Perkins School under its various name changes, 1829-1876.
1871; 1874-76	William Chapin (1802-1888). Principal of the Pennsylvania Institution for the Instruction of the Blind (now Overbrook School for the Blind), 1849-1888.
1872-74	Dr. A. D. Lord (1816-1875). Superintendent of the Ohio School for the Blind, 1856-1868; Superintendent of the New York State School for the Blind, 1868-1875.
1876-78	William Henry Churchman (1818-1882). First Principal of the Tennessee School for the Blind, 1844-46; first Superintendent of the Indiana and Wisconsin Schools for the Blind during the 1840's and 50's; figured in the planning of the New York State School at Batavia, 1866; Superintendent of the Indiana School, 186?-1879.
1853 President Pro Tem	T. Colden Cooper (181?-18??). Principal of the New York Institution, 1852-1861.

SECOND GENERATION
(Born 1820-1850)

Year President	Other Data
1886-88	William Dismuke Williams (1823-1898). Superintendent of the Georgia Academy for the Blind, 1858-1898.
1878-80	Rev. Dr. George L. Smead (1834-1915). Superintendent of the Ohio School for the Blind, 1868-1885 and 1900-1905.
1908-10	Benjamin Bussy Huntoon (1836-1919). Superintendent of the Kentucky School for the Blind, 1871-1912; Superintendent of the American Printing House for the Blind, 1871-1919.
1898-1902	Michael Anagnos (1837-1906). Teacher at the Perkins School, 1868-1876; Director of the Perkins School, 1876-1906.
1880-92; 1896-98	Frederick Douglas Morrison (1837-1904). Superintendent of the Maryland School for the Blind, 1864-1904.
1888-90	William Bell Wait (1839-1916). Teacher at the New York Institute for the Blind, 1859-62; Principal, 1863-1905; Principal Emeritus, 1905-16.
1882-84	G. A. Miller (184?-19??). Superintendent of the Kansas School for the Blind, 1874-1889 and 1895-1897.
1884-86	Dr. John T. Sibley (184?-????). Superintendent of the Missouri School for the Blind, 1881-1899.
1894-96	James Jabez Dow (1848-1926). Superintendent of the Minnesota Institution for the Deaf, Dumb and Blind, 1875-1879; was instrumental in separation of the school for the blind from the school for the deaf in 1879; Superintendent of the Minnesota School for the Blind (now Minnesota Braille and Sight Saving School), 1879-1926.

THIRD GENERATION
(Born 1850-1880)

Year President	Other Data
1902-4	John E. Ray (1852-1918). Superintendent of the Colorado Institution for the Deaf and Blind, 1887-1894; Superintendent of the Kentucky School for the Deaf, 1894-1896; Superintendent of the North Carolina School for the Deaf, 1896-1918.
1918-20	William Kavanaugh Argo, LL.D. (1857-1921). Teacher at the Kentucky School for the Deaf, 1879-1884; Acting Superintendent, 1882-1884; Superintendent, 1884-1894; Teacher at the Colorado School for Deaf and Blind, 1894-1899; Superintendent, 1899-1921.
1910-12	Stephen Decatur Lucas (1860-1925). Superintendent of the Arkansas School for the Blind, 1907-1912.
1890-92	J. H. Dye of Arkansas (186?-19??). No other information.

Upper left, Francis Eber Palmer; upper middle, George F. Oliphant; upper right, Bradley S. Joice; lower left, Dr. Samuel P. Hayes; lower middle, S. M. Green; lower right, Charles A. Hamilton

1906-8	George S. Wilson (1869-1944). Superintendent of the Indiana School for the Blind, 1898-1934.
1934-36	Francis Eber Palmer (1863-1950). Superintendent of the Iowa School for the Blind, 1918-1939.
1930-32	Benjamin Philip Chapple (1864-1942). Superintendent of the North Dakota School for the Blind, 1907-1930.
1892-94	A. H. Dymond of Ontario (186?-19??). No other information.
1904-6	Joseph Henry Johnson (1864-1913). Principal of the Alabama School for the Deaf, for the Blind, and for the Negro Deaf and Blind, 1892-1913.
1932-34	Charles A. Hamilton (1866-1943). Superintendent of the New York State School for the Blind, 1907-1933.
1926-28	Samuel McKnight Green (1866-1943). Principal of the Missouri School for the Blind, 1891-1899; Superintendent, 1899-1941.
1928-30	Junius Thomas Hooper (1867-1938). Superintendent of the Wisconsin School for the Blind, 1911-1933.
1912-15	Edward Ellis Allen, LL.D. (1867-1950). Teacher at the Royal Normal College for the Blind, 1885-1888; Principal of the Boys' Department at the Perkins School, 1888-1890; Principal of the Pennsylvania Institution for the Instruction of the Blind (now Overbrook), 1890-1907; Director of the Perkins School, 1907-1931.
1915-16	Olin Howard Burritt, LL.D. (1867-1949). Superintendent of the New York State School for the Blind, 1901-1907; Superintendent of the Pennsylvania (now Overbrook) School for the Blind, 1907-1936.
1920-22	Edward Marlay Van Cleve (1868-1937). Superintendent of the Ohio School for the Blind, 1907-1914; Principal of the New York Institute for the Blind, 1914-1935.
1916-18	Thomas Simpson McAloney, LL.D. (1869-1932). Superintendent of the Montana School for the Blind, 1900-1906; Superintendent of the Western Pennsylvania School for the Blind, 1906-1922; Superintendent of the Colorado School for Deaf and Blind, 1922-1932.
1922-24	John Francis Bledsoe (1869-1946). Teacher at the Alabama School for the Deaf, 1894-1898; Principal of the Colored Department of the Maryland School for the Blind, 1898-1906; Superintendent of the Maryland School for the Blind, 1906-1941.
1936-38	G. Ernest Lineberry (1870-1952). Member of the Board of Directors of the North Carolina School for the Deaf and Blind, 1907-1918 (while President of Chowan College); Superintendent of the North Carolina School for the Deaf and Blind (now the Governor Morehead School), 1918-1945.

1924-26	G. F. Oliphant (1874-1946). Superintendent of the Georgia Academy for the Blind, 1906-1939.
1940-44	Robert W. Woolston (1875-1947). Superintendent of the Illinois School for the Blind, 1911-1944.

FOURTH GENERATION
(Born 1880-1910)

Year President	Other Data
1938-40	James Samuel Ganey, Ph.D. (1880-1965). Principal of the Alabama School for the Blind, 1914-1938; Superintendent of the Alabama Institute for the Deaf and Blind, (of which the Alabama School is a part) 1938-1946.
1944-46	W. G. Scarberry, Ph.D. (189?-Living). Superintendent of the Ohio School for the Blind, 1933-1960; presently Dean of the Bliss Business College, Columbus, Ohio.
1946-48	William E. Allen (1895-Living). Superintendent of the Texas School for the Blind, 1930-1965.
1948-50	Francis M. Andrews, DL.H. (1895-Living). Principal of the Boys' Department at the Perkins School, 1925-1933; of the Upper and Lower School, 1933-42; Superintendent of the Maryland School for the Blind, 1942-1965.
1954-56	John C. Lysen (1900-1969). Superintendent of the Minnesota Braille and Sight Saving School, 1934-1965.
1952-54	Neal F. Quimby, Ph.D. (1907-61). Principal of the Overbrook School for the Blind, 1929-1943; Superintendent of the New Mexico School for the Blind, 1943-1961.
1956-58	Robert H. Thompson, Ph.D. (1909-Living). Superintendent of the Missouri School for the Blind, 1942-1957; Superintendent of the Michigan School for the Blind, 1957 to present.

FIFTH GENERATION
(Born 1910-1940)

Year President	Other Data
1958-60	Donald W. Overbeay (1910-Living). Teacher at the Illinois Braille and Sight Saving School, 1932-1939; Principal of the Kansas School for the Blind, 1939-1950; Superintendent of the Iowa Braille and Sight Saving School, 1930-1960; Superintendent of the Ohio School for the Blind, 1960 to present.
1960-62	Lois Virginia Cox (1911-Living). Teacher of the Maryland School for the Blind, 1932-52; Supervising Teacher at the South Carolina School for the Deaf and Blind, Department of the Blind, 1953-1956; Principal of the Maryland School for the Blind, 1956 to present.

1950-52 Finis E. Davis (1911-Living). Superintendent of the Arkansas School for the Blind, 1939-47; Vice-president and General Manager of the American Printing House for the Blind, 1947 to present.

1962-64 James Max Woolly (1914-Living). Principal of the Arkansas School for the Blind, 1939-1948; Superintendent, 1948 to present.

1966-68 Stewart E. Armstrong (1916-1972). Master of Teaching Methods in Social Studies, Hamilton Teachers' College, 1950-1956; Superintendent of the Ontario School for the Blind, 1956-1972.

1964-66 Lee Aaron Iverson (1924-Living). Principal of the Florida School for the Blind, 1953-1960; Superintendent of the Iowa Braille and Sight Saving School, 1960-1964; Director of Education and Rehabilitation Services, Department of Family Services of Illinois, 1964 to present.

1967-68 William H. English (1929-Living). Teacher at the Kentucky School for the Blind, 1951-1955; Principal of the Ohio School for the Blind, 1955-1958; Principal of the Virginia School for the Blind, 1958-1970; Superintendent of the Wisconsin School for the Blind, 1970 to present.

In addition to occupying the office of president of the old AAIB, these men, while not serving as president, held sixty percent of the other offices of the organization. Obviously their traits were woven into its fabric, especially the traits of those born between 1850 and 1880, who occupied the presidency more than twice as often as any of the other four generations.

By elementary statistics we see presidents averaged fifty-two years of age (median fifty-three) when they were elected, the oldest to serve being seventy-two, the youngest thirty-eight years old. They averaged twenty-nine years of administrative experience in work for the blind, and eighteen years at the time of election to the presidency. This tells us that they were seasoned career men in work for the blind, not moribund when elected, but well-experienced.

They had one very distinctive characteristic which will emerge in this chronicle. As a group they were essentially "apolitical," albeit even those who served institutions with private boards derived large appropriations from state legislatures. Their resolutions against "political interference" may be unique in the annals of a profession that was supported by public funds. Year after year the presidency went to the heads of private schools in the East who were able to be articulate about this without head-on collisions.

It is fascinating to speculate which among themselves such a body would cite as a pattern or an ideal. A very likely candidate would be Robert W. Woolston, Superintendent of the Illinois School for the Blind from 1911 until 1947. His obituary in the *Outlook for the Blind* spoke of his "unassailable dignity." But beyond that the particular point made was that "in 1914 by offering a resignation which was not accepted, he drew a plain line between education and state politics." AAIB waited a long time to see if the head of a state school could make this stick, and when they saw he could, they made him president of the Association in 1940 with particular warmth. Woolston represented a generation which regarded education of the blind as a separate and distinct profession.

Dr. Edward E. Allen, the most prolific writer and thinker of their number, wrote of German teachers of the blind, "Ah, but it does one good to talk with those men! Blidness is their business, their life work. They know it through and through as a profession. . ."

Robert W. Woolston, who "drew a plain line between education and state politics."

Howe had pointed out the hazards of such dedication, as we have seen, and the consumers were to challenge it, we shall see, with their demands for public school education which would give them the wisdom of the market place. It also received a startling blow from a supposedly sympathetic quarter when the trustees went "outside the field" in 1930 to choose Dr. Allen's successor, Dr. Gabriel Farrell. Strong letters of protest came to the President of the Perkins Board of Trustees. Never was the third generation of AAIB so stirred up. When they next convened, they even showed an inclination to ignore Dr. Farrell. But after about ten minutes a wise member of the Association* detached himself from the others and set out to make friends with the new man; others followed his lead. Assimilation and indoctrination were under way, ultimately to everyone's credit, although undoubtedly at some cost to the amour-propre of the Association. Some members never again recruited for the profession enthusiastically. Thereafter a few warned young men against it with disconcerting frankness.

We shall see, however, that the "profession" continued, and continued to make the most of its basic principle: that blind children should have an education not on a charitable basis, but as a part of public education and that the governing of this should be non-partisan.

Meeting # 3**

On August 20, 21 and 22, 1872, the third meeting**of the American Association of Instructors of the Blind was held.

Place:	Perkins Institution (Massachusetts)
President:	A. D. Lord (1816-1875), Superintendent, New York State School; on the Board (1871 and 1874-1876) and Vice-President of AAIB later (1876-1878)
Vice-Pres.:	S. G. Howe (Massachusetts) and W. H. Chapman (Indiana)
Recording Secretary:	W. B. Wait (New York)
Corr. Secretary:	W. D. Williams (Georgia)
Board Members:	Churchman (Indiana), Wait (New York), Little (Wisconsin), Sturtevant (Tennessee), Foster (Missouri)

Twenty-two superintendents and twelve teachers were present plus twenty-two corresponding members. Newer members of the AAIB may think of the work of the International Conference on the Education of Blind Youths as something entirely new, yet here in 1872 we find that this spirit of mutual help to the blind was evident, for invitations to this convention were sent to the following foreign cities: Berlin, Berne, Brussels, Copenhagen, Dublin, Edinburgh, Glasgow, Halifax, The Hague, Liverpool, Milan, Munich, Madrid, Paris, Perth, Rome, Stockholm, St. Petersburg and Vienna. No representatives from these cities attended, however. This may have been due to

*John Francis Bledsoe.

**Called the "first" in the Proceedings.

anticipation of an international conference of educators of the blind which was to be held in Vienna in 1873.

Mr. Churchman presented the following resolutions which were adopted.

"First, That the education of the blind should as far as possible, conform to that of the seeing.

"Second, That in schools for the blind, apparatus and methods employed should vary as little as possible from those used in most approved schools for the seeing."

His third resolution was: "That, whether the point or line signs are used, the alphabetical characters employed in printing the elementary school books should include both capitals and lower case letters." This was of great concern to those present. After nearly a day's debate the resolution lost, as the vote was fifteen for and fifteen against and the president voted against. This was to be a bone of contention between advocates of New York Point and Braille for years to come.

On the last day it was voted that the new officers should be elected on the afternoon of the last day of the meetings. It was also resolved that each superintendent pay $25.00 to be applied to the publication of the report of the convention and any other expense of the Association.

This was to provide Proceedings for years to come, the only log of the Association on which this present chronicle is based. Moreover, though not widely circulated and now rare to the point of extinction, most of the papers printed are still arresting for their authors' intelligence and common sense on the subject of blindness.

The convention spent an hour on the discussion of braille music. The subject of employment and workshops occupied an hour and a half of their time.

The resolution that "Discipline in schools for the blind should conform as nearly as possible to that of the seeing" brought forth much comment. Respect for blind youths was again demonstrated when this resolution was adopted minus the words "as nearly as possible."

(Here we note parenthetically that despite his scruples about gatherings of educators of the blind, Dr. Howe attended the 1873 meeting in Vienna. Other Americans at that conference were William Wait, Frederick Morrison of Maryland and Thomas Little of Wisconsin. Adolph Willharitz, a teacher of music at the Missouri School, delivered a paper entitled "The Blind of America and Their Educations." Topics discussed were pre-school education, "practical" education of the blind, introduction of a common writing system and education of the deaf-blind; Perkins, the New York School and the American Printing House for the Blind sent exhibits.)

Meeting # 4

Place: Batavia, New York, August 18, 19 and 20, 1874

President: William Chapin (1802-1888), Principal, Pennsylvania Institution; President of AAIB (1871)

Vice-Pres.: W. D. Williams (Georgia) and W. H. Churchman (Indiana)

Recording Secretary: W. B. Wait (New York)

Corr. Secretary: B. B. Huntoon (Kentucky)

Board Members: Wait (New York), Anagnos (Massachusetts), Lord (New York State), Parker (Kansas), Morrison (Maryland)

Dr. Lord urged that more opportunities for the employment of the blind be established. He also expressed the hope that a greater awareness of the possibilities of education for blind youth be made. In spite of the feelings toward Mr. Ruggles, a resolution was adopted that the Association would be glad to cooperate with Mr. Ruggles and a "Board of Trust" which he might set up. The executive committee was again requested to consider some kind of publication on matters relating to the education and other interests of the blind.

Meeting # 5

Place: Philadelphia, Pennsylvania Institution, August 15, 16 and 17, 1876

President: William Churchman (1818-1882), Superintendent, Indiana School for the Blind; Vice-President of AAIB (1871-1876)

Vice-Pres.: A. D. Lord (New York) and G. L. Smead (Ohio)

Recording Secretary: W. B. Wait (New York)

Corr. Secretary: B. B. Huntoon (Kentucky)

Treasurer: J. McWorkman (Missouri)

Board Members: Wait (New York), Morrison (Maryland), Williams (Georgia), Anagnos (Massachusetts), Mrs. Little (Wisconsin)

Nearly two-thirds of the Wednesday morning session was devoted to memorial services for five co-workers who had died since the last meeting. Long speeches were made. One wonders what some of the 1964-1966 board members would think since they unsuccessfully tried to do away with a necrology committee altogether. However, it was time for education of the blind to think solemnly of the dead. Its undoubted professional father Samuel Gridley Howe had died on January 2, 1876, and this was the first convention to meet without him or without the somewhat anxious anticipation of one of his messages of praise or blame. The Association was in fact on its way from a pioneering age of personal distinction to a more secure, less exciting time of general efficiency. Nonetheless, Stephen Babcock* of the New York City Institute gave an excellent talk on

*Stephen Babcock (1832-1916) suffered an eye injury at 16, lost his sight at 19. He produced the Babcock system of mental arithmetic, which was to become a part of the curriculum of residential schools with high standards and in certain respects resembled the "new math" of the present time. Babcock also designed the first dissected raised maps. (According to some authorities Benjamin Huntoon's maps were earlier. They were close to simultaneous.) He was a teacher at the New York Institute for the Blind from 1855 till 1901 (Principal Teacher from 1857). With William Wait, he designed an arithmetic slate which was to have universal acceptance.

the "Social Condition and Attainments of the Blind."

The president appointed a committee to present a plan for an appeal to Congress for aid in establishing a Printing House for the Blind. This committee made its report in the form of a resolution urging help in providing embossed material as well as the endowment of the American Printing House by Congress. (It should be remembered that at the meeting of 1853 a committee with Dr. Howe as chairman had been appointed to appeal to Congress for national aid for printing for the blind, but nothing came of it.) The president then appointed a committee of five superintendents to draw up a suitable bill to be presented to Congress. These superintendents were from the schools of Kentucky, New York City, Pennsylvania, Maryland and Georgia.

Dr. Thomas Armitage of England sent an interesting letter telling of the work for the blind in that country, and Dr. Phillippe da Motta, Brazilian commissioner for Education, told of the work in his country.

Mr. Sturtevant submitted three resolutions: one pertaining to music and musical notation, another on manufactures and employment, and the third proposing that two groups gather material on the same and report at the next meeting.

The pros and cons of the use of textbooks and what materials should be embossed took an entire afternoon. Some believed in oral teaching, others limited textbooks, and others wanted a book for every child.

Mr. Anagnos thoroughly disliked textbooks and quoted Dr. Howe as saying: "Textbooks are very good when they are used as sticks to walk with; they are a miserable thing when they are used as crutches to be depended on entirely."

Here it is pertinent to note some observations concerning Mr. Anagnos by Henry Randolph Latimer:

> Michael Anagnos, son-in-law of Dr. Samuel Gridley Howe, was born in Epirus, Greece, November 7, 1837. Educated within the shadow of historic Athens, his vigorous mind teemed with classic lore, and his democratic spirit matched that of the independent Greece into which he was born. Dr. Howe, during one of his visits to Europe in the interest of humanity, recognized in this virile young Athenian, the understudy he needed as Director of Perkins Institution. Accordingly, Michael Anagnos was induced, in 1867, to come to Perkins as Dr. Howe's assistant. After nine years of intimate and harmonious association with the great pioneer, the young man succeeded to the responsibilities which had been so ably borne by his master.
>
> Loyal to his father-in-law and chief in every respect, he persistently disclaimed originality for the many ideas and plans which, during thirty years of active administration, his genius and ability brought to fruition.

This loyalty had obviously begun to take an extreme form in the pitting of "oral teaching" against textbooks and was to make itself felt acutely in the long struggle over tactile reading which was now beginning to take shape.

A resolution was passed appointing a committee to recommend the production of proper textbook materials to the American Printing House in the following subjects: Grammar, Physiology, Natural Philosophy, Geology, Chemistry, Natural History, Geometry, Algebra and Astronomy. It was further recommended that each of these subjects be printed in a single volume.

Maryland School for the Blind, 1868-1909,
under the old congregate plan

Maryland School for the Blind, rebuilt in 1911,
according to the cottage-family plan

That evening prizes were presented to Miss Rosa Carey, a graduate of the Batavia School; Mr. H. H. Johnson, a teacher in the West Virginia School at Romney; and Ambrose Shotwell, also a graduate of the Batavia School, for their outstanding essays upon the "Employment of the Blind."

It was suggested that each school keep adequate records of their graduates and former pupils after they have left school showing what type of employment each one had obtained. After this there was a vigorous discussion on the topic "Consideration of the Cottage and the Congregate Systems."

This brought into the deliberations of the convention a subject which was to rival the question of embossed types for the amount of emotion it was to generate in years to come. The money involved in the cottage and the congregate systems seemed to be uppermost in the minds of some instead of the real value of either plan. Advocates of both systems were most outspoken. No vote was taken, which is probably just as well, for the discussion had some of the earmarks of the more recent controversy of day classes versus residential schools, and it is doubtful that a resolution could have been passed which would have lent credit to the convention.

Meeting # 6

Place:	Columbus, Ohio Institution for the Education of the Blind, August 21, 22 and 23, 1878
President:	G. L. Smead (1834-1915), Superintendent, Ohio School; Vice-President of AAIB (1876-1878) and later on the Board (1880-1882) and Vice-President (1904-1906)
Vice-Pres.:	F. D. Morrison (Maryland) and Mrs. Little (Wisconsin)
Recording Secretary:	B. B. Huntoon (Kentucky)
Treasurer:	O. Patten (Arkansas)
Board Members:	Wait (New York), Hunter (Ontario), Williams (Georgia), McWorkman (Missouri), Little (Wisconsin)

Benjamin B. Huntoon, Superintendent of the Kentucky School for the Blind and Superintendent of the American Printing House for the Blind, was a unique practical worker in both education and publishing as well as a potent diplomat between them and also with the public and Congress. He was a designer not only of the administration of the American Printing House for the Blind, but inventor of many mechanisms for the production of embossed books. He devised the first cylinder embossing press. As chairman of the committee which had been appointed to "memorialize Congress," he gave the report of the committee and read the bill known as "An Act to Promote the Education of the Blind." The bill had been presented to Congress by Albert S. Willis, Representative from the Fifth District of Kentucky. The committee had visited Washington in a body and had appeared before the Joint Committee on Education of the two Houses of Congress. Mr. Wait, of the New York Institute, was spokesman and presented the case of the blind in an address marked by all his great ability, force and eloquence. The report was accepted and the committee continued. A resolution thanking

the Hon. Albert S. Willis for his energetic, earnest and successful efforts on behalf of the blind to the 45th Congress was adopted.

The committee on statistics made an adequate report in spite of lack of cooperation on the part of some schools and believed that a good start had been made in learning how the blind are occupied.

Mr. G. L. Smead, Superintendent of the Ohio Institution for the Blind, read an excellent paper on the "Literary Education of the Blind." Following this, a lengthy paper entitled "Comparison of the Braille and New York Systems of Point Writing; and a Proposed Modification of the Braille System" was read by J. W. S. Smith. This detailed and sometimes technical paper suggests in its audience a high intellectual capacity and intense interest in education of blind children. A move to adopt the modified braille was deferred and the entire matter was referred to the executive committee.

In the midst of the discussion on braille music and notation the Governor of Ohio arrived on the platform. Business was suspended so he could welcome the delegates. His speech took less than a printed page, but the responses to his remarks made by Messrs. Churchman, Morrison, Hunter and Chapin took eleven pages and leave an impression that these gentlemen made the most of their chance at a captive audience in the long, difficult task of public education. They did not omit gracious remarks concerning Ohio leadership, popular good will, etc., etc.

The evening session was given over to a discussion of Mr. Smith's paper. Mr. Wait, being a firm believer in the New York Point, was most outspoken. He pointed out that Mr. Smith had made errors in saying that the New York Point covered five points from the top of the cell to the bottom when it was only four. Therefore many of Mr. Smith's calculations were incorrect. He also said it was tangible in spite of what Great Britain might think. This remark caused Mr. Francis Campbell (later Sir Francis) to ask to whom was Mr. Wait referring. Wait replied, "the British Association."

Mr. Wait had one of his pupils read in New York Point. This brought out further comments such as: Had she memorized the passage? Had she ever read it before? Mr. Wait acidly responded that it would be difficult to find a blind child who had not read the entire Bible since it was the only book which was presented to them to read!

Mr. Campbell said that Moon Type was used to a rather large extent in England which brought forth from Mr. Lane a reply that "Moon Type was the most unqualified barbarism in the way of intelligible letter ever presented to the finger and should be banished." After further discussion the matter of what kind of embossing should be used by the schools was laid on the table and Mr. Wait was asked to prepare a paper in rebuttal to that of Mr. Smith's.

On the morning of the 23rd most of the time was consumed in reporting on the workshop which the schools were running. Mr. Campbell answered many questions on piano tuning as taught in London and the possibilities of employment in this field. In the afternoon a resolution was presented stating that the states should consider the education of the blind in the nature of free school and not a home or a place of refuge. A long discussion on music braille followed. In the evening a most interesting topic on "Facial Perception" took place. Dr. Hanks Levy of London had written his book entitled "Blindness and the Blind" which mentioned this subject. Many present believed certain persons made use of this gift. Mr. Anagnos pointed out that one of his pupils could tell objects six feet away, but when his ears were plugged he was not able to discern any

object, even at one inch from his nose. Thus Anagnos, as a mere observer of blind youth over a considerable period, antedated "controlled experiment" by many decades.

This was a most peppery convention marked by wrangling and discordant sounds, but at the same time producing a great deal of useful information. An invitation was given by Mr. Huntoon to come to the "land of Bar'l and bourbon, spring chicken, ham, mint and corn, fast horses and divine women."

Meeting # 7

Place:	Louisville, Kentucky School for the Blind, August 17, 18 and 19, 1880
President:	F. D. Morrison (1837-1904), Superintendent, Maryland School for the Blind; Treasurer of AAIB (1872-1874), Vice-President (1878-1880), Corresponding Secretary (1888-1890) and on the Board (1871, 1874-1878, 1882-1892, 1894-1896, 1904-1906)
Vice-Pres.:	J. H. Hunter (Ontario) and W. B. Williams (Georgia)
Recording Secretary:	B. B. Huntoon (Kentucky)
Corr. Secretary:	W. B. Wait (New York)
Treasurer:	O. Patten (Arkansas)
Board Members:	Wait (New York), Smead (Ohio), McWorkman (Missouri), Miller (Kansas), Gudger (North Carolina)

Frederick D. Morrison as president gave this convention an excellent tone. He functioned in the Baltimore of the budding Johns Hopkins, Dr. William Osler and that extraordinary prelate, Cardinal Gibbons, who explained the American Constitution to the Pope line by line and who said of infallibility, "I don't know; he called me Cardinal Jibbons." Not only was Morrison a part of this establishment of rare spirits, he was equally at home in the banking community, a director of the Provident Savings Bank, and in politics known familiarly, but not vulgarly. He was permitted by both parties to keep his cause non-partisan, his voice and face representing blind people in Maryland in his time. Instrumental in founding the American Association of Instructors of the Blind, he was prominent in its deliberations, served for two terms as its president, and was named, in 1887, to represent it at the Paris Exposition; he was also Vice-President of the American Printing House for the Blind.

A new international outlook was apparent when in his address of welcome, Dr. T. S. Bell, President of the Board of Trustees of the Kentucky Institution, spoke in glowing terms of the work of "Mr. Campbell, an American in England who has established one of the finest schools of learning for the blind in Europe."

It was also announced that Congress had passed a bill setting aside $250,000.00 for the American Printing House. This was due to the fact that every superintendent in the country had contacted his Congressman and to the energy, enthusiasm and parliamentary

skill of Mr. Willis. This bill set aside a thirty year four percent bond of $250,000.00 which provided a subsidy of $10,000.00 annually for APH and became law on March 3, 1879. Now it would be possible to have an adequate supply of embossed books for the blind.

A communication from Mr. Morrison Heady concerning embossing in which he advocated certain changes in the braille alphabet and abbreviations caused considerable discussion. Mr. Hunter of Ontario later described his slate which would allow New York Point to be produced right side up.

Mr. Hunter also questioned the propriety of requiring all pupils to read the Gospel of St. John and pointed out that the Scriptures should not be used as textbooks and that "the church has a right to its opinion."

Mr. Lane urged that more be done for higher education and went so far as to say that "a man will be a better ploughman or shoemaker for a thorough mastery of Greek than without it." Miss Redick of Ohio presented a most interesting paper on "The New Education, or Kindergarten for the Blind."

A resolution presented by Mr. Wait was adopted which expressed pleasure and hopes for success in regard to the newly formed Society for Providing Religious Literature for the Blind at Philadelphia.

The convention was much concerned with the education of black blind children and youth. Some states had already established separate schools for them. Morrison was the leader in this field, Maryland having been the first to begin such a program.

The study of handicrafts as taught in the schools was considered by the convention. Thus we are not surprised to find discussion on topics such as covered basketry, broom making, use of sewing machines and canning.

Meeting # 8

Place:	Janesville, the Wisconsin Institution, August 15, 16 and 17, 1882
President:	G. A. Miller, Superintendent, Kansas School for the Blind; on the Board (1880-1882 and later 1886-1890 and 1896-1898)
Vice-Pres.:	J. J. Dow (Minnesota) and Mrs. T. H. Little (Wisconsin)
Recording Secretary:	B. B. Huntoon (Kentucky)
Corr. Secretary:	W. B. Wait (New York)
Treasurer:	O. Patten (Arkansas)
Board Members:	Wait (New York), McCune (Iowa), Sibley (Missouri), Morrison (Maryland), Phillips (Illinois)

At this convention teachers were given the right to vote. It is significant that this action should have occurred at a meeting during which the most arresting paper was presented by a blind teacher who for many years to come was to be regarded as a rather

Ambrose M. Shotwell

dangerous radical by members of AAIB. This was Ambrose M. Shotwell, whose discourse on this occasion was entitled "Silk Culture as an Employment of Blind Women." In the next decade he was to play somewhat the same role in the establishment of the American Association of Workers for the Blind as William Churchman had played with respect to AAIB. Born the year of its first meeting in 1853, he was twenty-nine years old at the 1882 meeting. He had had only partial sight from a very early age, but had been educated at the New York State School for the Blind, graduated to making brooms in 1873, taught at the Wisconsin School for the Blind in 1875-6, won an Otis Patten prize for essays on the employment of the blind in 1876, graduated from the Michigan Normal College of Ypsilanti in 1878, and led the movement for the establishment of the Michigan School for the Blind, which opened in 1880, but was not invited to be a member of its staff. During 1879-81 he edited a paper in the interest of the blind – "Our Reporter" – and was teaching at the Arkansas School for the Blind at Little Rock at the time of the convention of 1882 when he delivered his paper on silkworms. Concerning this, the convention suggested that a further study be made adding the cryptic suggestion that a report say, "A blind person can do this. Can do's are of no consequence here." AAIB was to encounter Ambrose Shotwell increasingly as the years went on with ideas which implied criticism of its members, but never churlishly.

Strongly contrasting with him, but also never churlish, was the author of another landmark report, Dr. James Jabez Dow, Superintendent of the Minnesota School for the Blind. Only thirty-four years old at the time, he was to spend forty-five years at the head of his school. When he died in 1926, Dr. Edward E. Allen wrote of him: "He found his school a mere bunch of blind youth as an appendage to an institution for the deaf. He left it not only large and independent but also embracing so many extensions under his direction from Faribault that his title might better have been Superintendent of the Minnesota Institute (rather than the School) for the Blind. He would have done his duty by his graduates had he merely placed, followed up and assisted them, but he went further. He wrote, and through persistent efforts secured passage of sane and progressive laws for all the blind population of the state. . . . When the type question was raging, he discussed it with more light and less heat than anybody else."

This came from a confirmed braillist who at times could be rather heated on the subject.

The report which Dr. Dow delivered in 1882 was on embossed type and it was a key factor in gaining acceptance for New York Point. It said:

1. It is desirable that a uniform system be adopted.
2. New York Point is adequate for all purposes.
3. New York Point has the greatest chance for agreement.
4. Let New York Point be adopted by institutions and uniformity become a reality at an early date.

The implication as to the superiority of New York Point over the Line Type caused much discussion.

B. B. Huntoon said, "Uniformity is one of those desirable things we long for but may never expect to attain." Mr. Wait reminded the convention that they were dealing with children and not adults and, in his opinion, the use of Point was preferable.

It was at this juncture apparently that Wait was at his most influential. He notes in his 1908 account of New York Point: "Down to 1882 the entire United States Fund had been used in printing Boston Line books, but in that year 50 per cent of the fund was set apart for books in New York Point." This, it would appear, was action not of the convention but of the American Printing House for the Blind.

Finally at the 1882 convention the roll of the house parent was stressed as well as that of teachers, and one was reminded that: "As is the teacher, so is the school."

Meeting # 9

Place:	St. Louis, Missouri, August 19, 20 and 21, 1884, Officers 1884-1886
President:	J. T. Sibley, Superintendent, Missouri School for the Blind; Vice-President of AAIB (1890-1892) and on the Board (1882-1884 and later 1886-1888, 1892-1894, and 1896-1898)
Vice-Pres.:	A. G. Clement (New York) and H. L. Hall (Pennsylvania)
Recording Secretary:	B. B. Huntoon (Kentucky)
Corr. Secretary:	W. B. Wait (New York)
Treasurer:	O. Patten (Arkansas)
Board Members:	Wait (New York), Dow (Minnesota), Morrison (Maryland), Little (Wisconsin), Battles (Pennsylvania)

Papers read on the teaching of music brought forth much discussion and Mr. Dow wanted to know why it was taught. This caused no small stir. Memorizing as a method of teaching was emphasized and Mr. Battles remarked that he thought "such methods had

long since been forgotten and no one educated in educational matters would presume to teach in that manner." (However, it is still being employed in some schools today, especially in teaching music.)

This somewhat unremarkable convention came at a time when work for the blind in the United States was under the scrutiny of an extremely keen observer, Dr. Thomas Rhodes Armitage of Great Britain, sponsor of Francis Campbell in that country. Returning home after a visit to America, he wrote a book entitled "The Education and Employment of the Blind: What It Has Been, Is, And Ought to Be." In this, though urbanely, he made some observations concerning American work for the blind in 1884 which are not to be found elsewhere. Partially seeing himself, he had founded the British and Foreign Association for Promoting the Education and Employment of the Blind. Concerning American schools of the 1880's he remarked, "It seems to be the fashion now, in America, to decry blind directors."

We recall that the Proceedings of the meeting of 1853 had noted that a number of the heads of the schools were blind, and we begin to observe that such was no longer the case in 1884 and was to be less so as time went on. This fact foreshadows the brewing of a consumer rebellion which was very soon to take the form of the American Blind Peoples' Higher Education and General Improvement Association which became the American Association of Workers for the Blind and brought about the ultimate undoing of William Wait's New York Point.

Dr. Armitage made some other rather astute comments about what he found in the American residential schools:

> The American institutions, as a whole, are palatial as compared with those of England. The various States have recognized the duty of providing institutions and educating their own blind children, and, as a rule, there is a magnificence and vastness about their arrangements which are quite unknown in this country. Every child has a right to be educated at the expense of the State, so that the managers are saved the trouble and anxiety of raising funds, either for the erection of the buildings or for the maintenance and education of the pupils. There is, however, another side to this picture. As the State Government furnishes the money, it also appoints the officers, and these, from the superintendent down to the servants, are the nominees of whatever party is predominant for the time; and it too frequently happens that, when a fresh party comes into power, the whole staff is changed. If the old staff was appointed when the Republican party was in power, the Democrats, when their turn comes round, must reward their adherents by giving them places. As this is considered legitimate patronage, each party exercises it on its advent to power; and though instances undoubtedly occur in which superintendents of high standing are allowed to retain their situations, yet it sometimes happens that even men who have spent a lifetime in learning their work are turned off to make room for new and untried men, simply on account of their political opinions.
>
> The institutions of Boston, New York, and Philadelphia form an exception to this rule.* They were founded by private benevolence, and though the State pays for the maintenance and education of the pupils, and assists in other ways, it has not the appointment of the staff.

Specifically with regard to political appointees, Dr. Armitage added:

> The next institution for the blind we visited was that for the State of Indiana, situated at Indianapolis. The teaching here is almost all oral, and the pupils learn their lessons by heart. This institution is a good example of the results of the miserable system of making the blind, and all other State institutions, subservient to political purposes.
>
> Mr. Churchman, a blind gentleman, under whose able direction the institution had long been flourishing, unfortunately did not belong to the political party which came into

*This was also true of Maryland.

"The American institutions, as a whole, are palatial as compared with those of England."

power in the State a few years ago; he, therefore, was dismissed, along with the teachers and others employed in the institution so that the party just come into power might exercise their full share of patronage. The low ebb which the institution has now reached is a monument of the folly of such proceedings.

Another Director was appointed in 1883, but has not yet had time to introduce the necessary reforms.

On another subject Dr. Armitage wrote prophetically, politely predicting trouble:

In the United Kingdom practical unanimity as to the best methods of educating the blind has been secured through the efforts of the British and Foreign Blind Association; but in America different schools use different systems of reading and writing.

Meeting # 10

Place: New York Institute, New York City, July 6, 7 and 8, 1886, Officers 1886-1888

President: W. D. Williams (1823-1898), Superintendent of the Academy for the Blind, Georgia; Vice-President of AAIB (1874-1876 and 1880-1882), Recording Secretary (1872-1874) and on the Board (1876-1880)

Vice-Pres.: T. H. Little (Wisconsin) and J. C. Graves (Alabama)

Recording Secretary: B. B. Huntoon (Kentucky)

Corr. Secretary: W. B. Wait (New York)

Treasurer: S. Babcock (New York)

Board Members: Wait (New York), Morrison (Maryland), Miller (Kansas), Dow (Minnesota), Sibley (Missouri)

Messrs. Anagnos, Chapin and Hall read papers pertaining to workshops for the blind which caused Mr. Wait to ask, "How is it that we, at every biennial meeting, are agitated by this question? How does it happen that it is put before us to incite our discussion and to cause us to express our views over and over again?" He reminded the convention that years before a resolution was adopted which stated: "Every institution should afford employment to all its graduates of good moral character."

Mr. Huntoon favored the embossing of as much literature as the schools demanded but questioned the advisability of producing apparatus for schools at this time, as sufficient funds were not available to do both.

Messrs. Anagnos, Battles, Huntoon, Hall, Williams, Glenn, and Morrison had worked with Mr. Wait to study the advisability of establishing a college for the blind. It was (temporarily, as we shall see) their belief that such a college should be established in Washington, D.C., and that Congress be petitioned for support thereof. Messrs. Dow, Babcock and Miller were added to the committee and ordered to pursue the matter.

A resolution condemning the practice of educating deaf mutes and the blind in the same institution was unanimously adopted.

Meeting # 11

Place: Maryland School for the Blind, Baltimore, July 10, 11 and 12, 1888, Officers 1888-1890

President: W. B. Wait (1839-1916), Principal, New York Institute for the Blind; Recording Secretary for AAIB (1886-1888), Corresponding Secretary (1872-1886, and later 1892-1906 and 1908-1915) and on the Board (1876-1878, 1890-1908 and 1871)

Vice-Pres.: W. J. Young (North Carolina) and A. H. Dymond (Ontario)

Recording Secretary: B. B. Huntoon (Kentucky)

Corr. Secretary: F. D. Morrison (Maryland)

Treasurer: S. Babcock (New York Institute)

Board Members: Morrison (Maryland), Miller (Kansas), Link (Tennessee), Miller (Ohio), Battles (Pennsylvania)

It seems appropriate at this juncture, when William Wait was president of the convention, to give a fuller description of him, quoting Henry Randolph Latimer, who, as a blind educator of the succeeding generation, had a fair estimate of his capability and influence:

> William B. Wait – lawyer, author, educator – was born in Amsterdam, New York, March 25, 1839. Graduating in 1859 from the Albany Normal College, he taught for two years in the New York Institute for the Education of the Blind. Although admitted to the Bar in 1862, he accepted the following year the principalship of the aforesaid institution. He held this important post with unusual distinction until impaired health forced his resignation in 1905. As Principal Emeritus, however, he continued to labor unceasingly on behalf of the blind until death overtook him October 25, 1916. Very near-sighted himself, Mr. Wait understood well the difficulties, foibles, and possibilities of his pupils. His methodical mind and legal training made him logical rather than sympathetic, exacting rather than indulgent, and practical rather than visionary. Like Mr. Anagnos, he was an active advocate of higher education for the blind; and like that apostle of Dr. Howe, he, too, lifted his school from the miasma of an asylum into the wholesome atmosphere of genuine education. Through his efforts, the standards of his institution were so advanced as to make it today an integral unit in the New York State Department of Education. More, perhaps, even than Dr. Howe had been, Mr. Wait was inseparably identified with the history and growth of his school. As an executive, he delegated authority only to teachers or officers who had proved their capacity for sustaining the trust so delegated. An ever-present administrator, he did not, even in specific matters when he had given an order, assume, for that reason, the thing would assuredly be done. So dominant was his personality that the American Association of Instructors of the Blind in the organization of which he had played a leading role, was often called "Wait's convention."*

*Wait, Anagnos, Morrison and Huntoon were sometimes called "The Big Four."

At the convention over which Wait presided, Mr. Clement's paper on "The Home Education of the Blind" pointed up the same problems as those facing us today – that early education is needed for children and their parents.

Mr. Doyle's paper on "Higher Education and Future Welfare of the Indigent Blind" brought out the fact that the committee appointed to study higher education had reversed its first proposal and established a policy of educating blind youth in colleges with the seeing which was to prevail to our own time. They took the daring step of asking Congress to appropriate "a fund sufficient to afford a perpetual income adequate to enable blind youths, graduates of the institutions, to pursue their studies in the same colleges and universities as attended by the seeing." The first bill died in Congress. Messrs. Dow, Doyle and Wait were appointed to prepare a memorial to Congress on this matter.

The executive committee, as the board members were known, approved of the resolution establishing kindergartens for the blind.

The convention approved of the work of the Society for the Publication of Evangelical Literature and recommended it for public support.

The stability of office of tenure as affecting Institutions of the Blind, the danger of political appointees as superintendents and the relation of school work to the future of the blind were discussed, doubtless as a result of the airing given on the subject by Dr. Armitage. The question of whether meetings should continue biennially or become annual was of some concern.

Meeting # 12

Place:	Illinois Institution for the Blind, Jacksonville, July 15, 16 and 17, 1890, Officers 1890-1892
President:	J. H. Dye (186?-19??), Arkansas
Vice-Pres.:	T. H. Little (Wisconsin) and J. T. Sibley (Missouri)
Secretary:	B. B. Huntoon (Kentucky)
Board Members:	Clement (New York), Morrison (Maryland), Dymond (Ontario), Wait (New York), McCune (Iowa)

For some unknown reason the responsibilities of corresponding secretary and recording secretary were not divided. Neither was a treasurer named.

It was agreed that physical culture was most important to the blind, but when dancing was proposed as part of the program that was quite another matter. In fact Mr. Wait said: "We ought not to put these children under circumstances where it is [as] utterly impossible for us to control the trend of their thoughts, the expression of their thought, as it is to control the winds that blow about our dwellings." Dancing for the blind or the seeing was out of the question.

Miss Biebe read a paper on "Nine Years of Kindergarten for the Blind." The Ohio School for the Blind had had the honor of starting the first kindergarten for the blind ten years before her paper was read.

Dr. Sibley and others advocated separate schools for the sexes. Concern for practical and proper education for girls was evident at this meeting.

Meeting # 13

Place:	Ontario School for the Blind, Brantford, Ontario, July 5, 6 and 7, 1892, Officers 1892-1894
President:	A. H. Dymond (186?-19??), Ontario, Vice-President of AAIB (1888-1890 and later 1896-1898) and on the Board (1890-1892 and later 1896-1898)
Vice-Pres.:	A. G. Clement (New York) and H. P. Fricker (Ohio)
Recording Secretary:	B. B. Huntoon (Kentucky)
Corr. Secretary:	W. B. Wait (New York)
Treasurer:	S. Babcock (New York)
Board Members:	Wait (New York), Sibley (Missouri), Fairly (Mississippi), Allen (Pennsylvania), Hall (Illinois)

Dr. McCune's paper on "Co-Education of the Blind and Sighted as I Have Found It" was most interesting and provocative, for it told of the program of integrating sighted and blind children at the Iowa College for the Blind. The discussion which followed reminds one of those which occurred years later concerning day classes, residential schools and integration, but not as heated. It was at this convention that the terms physiological and psychological aspects of blindness were used in discussion, these aspects long having been implicit in the deliberations of the convention.

There was a question as to whether the Association should take part in the Columbian Exposition. Invitations had been sent to superintendents of all institutions for the blind throughout the world and they were appointed to the Advisory Committee of the Exposition. Exhibits of work of the blind in this and other countries would be displayed. Dr. Hall, Mr. Huntoon and Dr. Sibley were to make arrangements for this International Conference for Educators of the Blind.

It was voted that the executive committee chose the place for the next convention and that it not be in a school.

So much for the Proceedings. But apart from Proceedings, we learn from Mr. Wait that trouble was brewing; says he in his 1908 account of New York Point:

> In 1892 it was decided by the American Association of Instructors of the Blind that only reprints of Line books should be issued, that any part of the 50 percent that had been reserved for Line books, not so needed, should be used in printing books in New York Point.
>
> At the same time, 1892, twenty-four years after the New York Code had been published and twenty-one years after it had been accepted by the American Association and commended for general adoption, and after the Association had six times confirmed the New York System and six times refused to recognize any form of Braille, either original or derived, French, English or American, a small minority of the principals, in defiance of these repeated sanctions of the New York System and disavowals of all varieties of Braille by the

Association, and willfully disregarding the great importance of having only one point system, needlessly and harmfully thrust forward a schismatic form of the Braille code, which they named American Braille.

Meeting # 14

Place:	Chatauqua, New York, July 17, 18 and 19, 1894, Officers 1894-1896
President:	J. J. Dow (1848-1926), Superintendent, Minnesota Institution for the Deaf, Dumb and Blind; Vice-President of AAIB (1882-1884) and on the Board (1884-1888 and later 1896-1898)
Vice-Pres.:	T. S. Doyle (Virginia) and W. G. Todd (Kansas)
Recording Secretary:	B. B. Huntoon (Kentucky)
Corr. Secretary:	W. B. Wait (New York)
Treasurer:	S. Babcock (New York)
Board Members:	Wait (New York), Jacob (West Pennsylvania), Pease (Wisconsin), Filkel (Florida), Morrison (Maryland)

The ancient and rather forbidding volumes of AAIB Proceedings of the last century contain some remarkably entertaining dialogues (at least for professionals in the field of work for the blind), and never more so than in coverage of the convention of 1894. Mr. Frederick Morrison read a dissertation at this convention entitled "The Use of Textbooks," which produced some revealing observations:

"Rubbish is put into the minds of children and kills entirely any germ of originality that God or nature planted there."

"It is horrible; it is something awful, to hear a man as old in the field as Mr. Anagnos get up today and tell us we know too much."

"I partly agree with Mr. Anagnos, but I say the teachers should be burned and not the textbooks."

It should be remembered here that Michael Anagnos was compulsively devoted to the memory of his predecessor Dr. Howe, and this had involved him in a commitment to Boston Line Type, which put him and Perkins in opposition to Wait and New York Point, making him fair game for any rival system, including a modicum of braille combined with the old "oral" method of teaching. Latimer says in his favor that he was nonetheless able to raise the curriculum of Perkins to a par with that prevailing in the public schools with "post-graduate" courses preparatory to Harvard.

It seems that "psychology" had not emerged to acceptance, even as a "soft" science, judging from the language used in the appointment of a committee of five to study "A scheme of methods and appliances for mind study in schools for the blind."

That Dr. Armitage was not exaggerating the threat of political interference in the schools is indicated from a resolution condemning the appointment or removal of

superintendents or teachers "for political or sectarian reasons." To add "sectarian" is something which would hardly occur to a convention today, marking, one would hope, some progress.

The Association must have felt financially flush, for the treasurer reported a balance of $84.62, and the collection of $3.00 from each superintendent was suspended. Nothing could illustrate better the difference between the AAIB of 1894 and similar organizations today than this, or the nature of the old Association as an "upper" house. Superintendents of that time saw no need for a central office force to do their business. Those institutions which Dr. Armitage termed "palatial" (and it was this type of institution that each president of AAIB headed) had a sufficient supply of clerks to do as much paper work as was thought good for the organization. Mr. Wait was especially well fixed in this respect. For two seasons he had even had the youthful Grover Cleveland for his "clerk." And Mr. Wait remained corresponding secretary for years and years, even returning to this office after having been president of the Association. Small wonder that the convention was called *his* convention.

In due time he was to find such was not the case . . . but not that year. Board meetings of the American Printing House for the Blind at that time were held in the same place as the convention of AAIB. All superintendents of schools for the blind were *ex officio* members. Of the Printing House board meeting of 1894, Mr. Wait wrote:

> In 1894, at a meeting of the trustees of the American Printing House, and as a climax of a two years' campaign of propaganda, a motion was made to change the bylaws so as to recognize and promote American Braille. Twenty-six institutions were represented, and after full consideration five voted for and twenty-one against such recognition.

It was to be a Pyrrhic victory. Just about this time braille began to be associated with the blind innovator; New York Point with the sighted superintendent. It is true that Wait had a slight visual handicap, but Joel Smith of Perkins had a greater one, and it was he who had brought braille to New England, and developed a form called "American" Braille.

The year 1895 was to see the emergence of the forerunner to the "American Blind Peoples' Higher Education and General Improvement Association" which in 1905 was to become AAWB, a lower house, which was to challenge the authority of AAIB, particularly with respect to New York Point. In microcosm we see in the development of these organizations a familiar pattern in the evolution of parliaments. Howe, the absolute monarch, had consented to a sort of council and tried to dismiss it. It had turned itself into a permanent body of peers. The peers in turn were challenged by the consumers whose lives their actions affected, and who organized first a meeting of discontent, which eventually was to qualify in order and sagacity, becoming a kind of "lower" house. They were greatly assisted in this by an opposition party in the "upper" house, which favored braille.

The long and acrimonious controversy over embossed types, which was now two decades underway, has frequently been deplored for the amount of intellect, emotional energy and good intentions it wasted. Nevertheless, if nothing else good can be said of it, as the struggle went on year after year at conventions, it proved the strength of the Association. Stories are told of members refusing to sit next to each other, of one who stood in the rain waiting for a cab rather than bide under the same roof with his opponent; but not one member, it appears, ever considered forming a rival organization of educators. AAWB, when it came, was originally composed entirely of dissatisfied graduates, who only after years admitted sighted persons to membership, and then with an asterisk next to their names to signify the fact.

Meeting # 15

Place: Pittsburgh, Western Pennsylvania School, July 14, 15 and 16, 1896, Officers 1896-1898

President: F. D. Morrison (1837-1904), Superintendent, Maryland School for the Blind; President of AAIB (1880-1882), Vice-President (1878-1880), Corresponding Secretary (1888-1890), Treasurer (1872-1874) and on the Board (1871, 1874-1878, 1882-1892, 1894-1896, 1904)

Vice-Pres.: G. Fuller (New York) and A. H. Dymond (Ontario)

Recording Secretary: B. B. Huntoon (Kentucky)

Corr. Secretary: W. B. Wait (New York)

Treasurer: S. Babcock (New York)

Board Members: Wait (New York), Sibley (Missouri), Glascock (Indiana), Miller (Kansas), Place (North Carolina)

It was the belief of those present that state institutions for the blind should be considered a part of the public school system and not charitable institutions. The present government agencies which condemn cigarettes should study Mr. Allen's paper on the use of tobacco and the evils of the "weed." The question of a periodical of the Association to be supported by schools for the blind was discussed but got nowhere.

Meeting #16

Place: Michigan School, Lansing, July 12, 13 and 14, 1898, Officers 1898-1900-1902

President: M. Anagnos (1837-1906), Director, Perkins School, Massachusetts; on the Board (1874-1878 and later 1902-1906)

Vice-Pres.: J. E. Ray (North Carolina) and E. P. Church (Michigan)

Recording Secretary: B. B. Huntoon (Kentucky)

Corr. Secretary: W. B. Wait (New York)

Treasurer: S. Babcock (New York)

Board Members: Wait (New York), Dymond (Ontario), Jones (Nebraska), Allen (Pennsylvania), Ray (North Carolina)

The subject of free postage for the blind was discussed.

It was suggested that the Association become associated with NEA, but it was finally voted that this was not expedient as AAIB might lose its identity.

Papers were read on "Improved Methods of Reading," "Massage," "Is Our Work Educational or Charitable?" and other timely topics.

The meeting of the trustees of the American Printing House was unusually spirited and it was the last held in connection with the biennial conventions. At it the following resolution was carried:

> Be it resolved, That the management of the American Printing House for the Blind be, and hereby is, instructed to print all new books which are selected by the publication committee in either New York Point or American Braille, or in line letter, as the publication committee may direct.

Meeting # 17

Place:	Raleigh, North Carolina, July 9, 10 and 11, 1902, Officers 1902-1904
President:	J. E. Ray (1852-1918), Superintendent, North Carolina School for the Deaf and Blind; Vice-President of AAIB (1898-1902 and later 1912-1915)
Vice-Pres.:	J. H. Johnson (Alabama) and O. H. Burritt (New York)
Recording Secretary:	B. B. Huntoon (Kentucky)
Corr. Secretary:	W. B. Wait (New York)
Treasurer:	W. L. Walker (South Carolina)
Board Members:	Wait (New York), Anagnos (Massachusetts), Allen (Pennsylvania), Dymond (Ontario), Walker (South Carolina)

Had the usual plans been carried out, this convention would have occurred during the summer of 1900; but it was passed over because at that time an international convention of instructors of the blind was held in Paris, in connection with the exposition, and this was attended by several members of the Association. The AAIB convention was therefore held in 1902.

Several significant innovations occurred. Edward E. Allen, whom the Association had seen hitherto as a braille zealot, took on a new guise as the advocate of correlation of the work of the Association with that of the National Education Association. The Association adopted this policy by resolution. The Council for Exceptional Children should note further that the convention went on to recommend establishment of a "Department of Special Education" relating to children demanding special means of instruction.

For the first time the meeting resolved itself into "institutes" with "institute directors" who guided discussion. Topics included teacher cooperation and the role of the blind teacher.

A resolution was passed recognizing the value of library extension work in behalf of the blind and thanking those who had brought it about.

Another resolution thanked Professor Alexander Mell, Director of the Imperial Institution for the Education of the Blind in Vienna, Austria, for his monumental work "Encyklopadishes Handbuch des Blinenwesens" and recommended that said work be placed in schools for the blind.

A committee of seven was authorized to provide an exhibition of the education of the blind in this country for the St. Louis Exposition in 1904.

A resolution favoring free mailing privileges for embossed material for the blind was also passed.

Meeting # 18

Place:	Louisiana Purchase Exposition, St. Louis, Missouri, July 20, 21 and 22, 1904, Officers 1904-1906
President:	J. H. Johnson (1864-1913), Principal, Alabama Schools for the Deaf, the Blind, and for the Negro Deaf and Blind; Vice-President of AAIB (1902-1904) and on the Board (1906-1908)
Vice-Pres.:	G. L. Smead (Ohio) and Miss Mary Wood (South Dakota)
Recording Secretary:	B. B. Huntoon (Kentucky)
Corr. Secretary:	W. B. Wait (New York)
Treasurer:	G. S. Wilson (Indiana)
Board Members:	Wait (New York), Anagnos (Massachusetts), Walker (South Carolina), Allen (Pennsylvania), Morrison (Maryland)

The 1904 convention was held in connection with the Louisiana Purchase Exposition. The sessions met in the Hall of Congresses on the exposition grounds. A report was received from the special committee on an exhibition of the education of the blind of this country at the St. Louis Exposition. The topic, "The Course of Study," which had been assigned to Mr. Lapier Williams of Kansas, had been subdivided by him into pertinent questions and distributed among superintendents and teachers from various schools in the country, thus eliciting widespread opinions on the subject and a fruitful discussion of different phases of the school curriculum. Dr. Piner presented a pessimistic paper on the results of "Free Education for the Blind," which was not debated, but was subsequently answered in a paper by Prof. H. H. Johnson of West Virginia.

In spite of the fact that 125 invitations were sent to institutions for the education of the blind in foreign countries, only one attended. This was Miss Mulot of France who demonstrated her work at the École des Jeunes Aveugles, Angers, France.

A report of the special committee on congressional legislation in reference to higher education for the blind showed that the committee members had prepared a bill but on

the advice of friends in the House did not submit it, as there were similar bills in the hopper. The report was accepted with the cordial thanks of the Association.

Meeting # 19

Place:	Portland, Oregon, Vancouver, Washington and Salem, Oregon, August 21, 22 and 23, 1906, Officers 1906-1908
President:	G. S. Wilson (1869-1944), Superintendent, Indiana School for the Blind; Treasurer of AAIB (1904-1906)
Vice-Pres.:	H. Clark (Wisconsin) and O. H. Burritt (New York)
Recording Secretary:	B. B. Huntoon (Kentucky)
Corr. Secretary:	E. E. Allen (Pennsylvania)
Treasurer:	J. H. Freeman (Illinois)
Board Members:	Wait (New York), Dow (Minnesota), Green (Missouri), Johnson (Alabama), Jones (Oregon)

Very few members of the Association were able to be present and, for the first time since the organization of the Association in 1853, there were no printed Proceedings of the gathering. This may well have been the lowest ebb of the organization, signified by the fact that there was now a subject which could not be discussed. In his "War of the Dots" Robert Irwin tells us that as of 1902 it "had not been customary at the AAIB Conventions to hold any public discussions of the type question." He adds, "Experience had shown that the acrimony engendered made calm deliberation on educational problems well-nigh impossible."

Meeting # 20

Place:	Indiana School, Indianapolis, July 14, 15 and 16, 1908, Officers 1908-1910
President:	B. B. Huntoon (1836-1919), Superintendent, Kentucky School for the Blind; Recording Secretary for AAIB (1874-1880 and 1882-1908) and Corresponding Secretary (1880-1882)
Vice-Pres.:	S. D. Lucas (Arkansas) and W. L. Walker (South Carolina)
Recording Secretary:	T. S. McAloney (West Pennsylvania)
Corr. Secretary:	W. B. Wait (New York)
Treasurer:	G. W. Jones (Oregon)
Board Members:	Burritt (Pennsylvania), Dow (Minnesota), Morey (Nebraska), Bledsoe (Maryland), Green (Missouri)

Pensions for teachers of the blind were discussed and a committee appointed to confer with Mr. Carnegie and others as to the desirability of establishing the same.

In January of that year Mr. Wait had published his "Key to the New York Point System," describing his long struggle in behalf of that type. The convention's reply was an ominous avoidance of the subject in public discussion.

Meeting # 21

Place:	Arkansas School, Little Rock, July 28, 29 and 30, 1910, Officers 1910-1912
President:	S. D. Lucas (1860-1925), Superintendent, Arkansas School for the Blind; Vice-President of AAIB (1908-1910)
Vice-Pres.:	J. V. Armstrong (Tennessee) and W. K. Argo (Colorado)
Recording Secretary:	J. F. Bledsoe (Maryland)
Corr. Secretary:	W. B. Wait (New York)
Treasurer:	F. H. Manning (Alabama)
Board Members:	Allen (Massachusetts), Driggs (Utah), Green (Missouri), Hall (Kansas), Hamilton (New York)

Mr. Huntoon's opening address was indeed a historical one which beautifully portrayed the highlights of the Association's work. He stressed the fact that blind children should receive the best possible education. He further said, "On this side of the water we have held up to the belief in the principle that it is better to spend thousands of dollars in creating a citizen than hundreds to maintain a pauper." As for educating the blind with the seeing he stated, "I do not hesitate to say that children who must be taught through the senses of hearing and touch alone, are out of place in any school where sight is the most important factor."

Mr. Huntoon appears in memoires of his contemporaries as picturesque, captivating, brilliant, and by 1910 he was also venerable. But all these traits together in the charm of his address could no longer suspend an overdue outburst on the type question at the Little Rock convention. This has been described at some length by Dr. Robert Irwin in his "War of the Dots" (*Blindness*, 1968). The following explanation will relate the scenario more briefly, for the purposes of this chronicle.

The superintendent of every publicly supported school for the blind in the United States was a member *ex officio* of the Board of Trustees of the American Printing House for the Blind. There was also a lay board of seven highly respected Kentuckians who handled the day-to-day business of the Printing House. Since 1880 board meetings had been conducted when and where the AAIB conventions were held, saving travel expenses for the frugal board members. In 1910 Mr. Huntoon, as Superintendent of the Printing House, had sent out a letter announcing that it had been found illegal to hold meetings outside the state of Kentucky. The braillists were furious. They had been working for years to build up a braille majority on the Printing House board. Now it seemed the fruits

of their labor were to be lost through a lawyer's trick, and this was hard upon a smashing victory for braille in the New York Public School System.

With dispatch they suspended the agreement not to discuss the type question at AAIB conventions. Indeed, ground rules were set by both factions for a parliamentary free-for-all, with an allowance of five minutes to speak for each member of the Association until all had been heard who wanted to be heard.

Drafted to preside was the highly respected, indeed beloved, George Wilson from Indiana, who was credited with being unbiased because he used braille in his school for literary work and New York Point for musical notation.

A most interesting aspect of the meeting was the arrangement whereby Mr. Huntoon was to be exempt from the one-speech-to-a-member rule because the meeting was determined to cross-question him as Superintendent of the American Printing House for the Blind. Here it should be said that he was one of the few people at the meeting who knew both braille and New York Point through and through.

Not without respect, but very persistently, he was asked question after question, and in turn asked to be asked certain questions, which he was permitted to do by the rules of the meeting. Tension rose steadily.

Finally a question was put which tried Mr. Huntoon's patience beyond his strength and he was heard to answer, "Why, yes; I would do as much, and more, for any dear set of asses the Lord ever made."

Mr. Wilson hastened to interrupt, "The Chair rules that the ephithet 'asses' is inapplicable in this case and insists upon its withdrawal."

Whereupon Mr. Huntoon, in a manner so gracious as to command the admiration of his hecklers, replied, "Mr. Chairman, having delivered myself of the epithet, it affords me the utmost pleasure to withdraw it."

Then the meeting dissolved in universal laughter which saved the life of AAIB.

But New York Point was done for. The convention was no longer Wait's Convention. The braillists arranged to hire a sleeping car, attend the Printing House Board meeting in Louisville and secure a braille quota in the appropriation for embossed books. This was the opening wedge for the ultimate victory of braille. However, it was also a victory for the Association which in future meeting was to settle so vexing a question without splitting up. Both factions, so long as they lived, had the tenderest of sentiments toward the moment when Mr. Huntoon relieved the tension with his epithet – none more than the "dear set of asses."

It was at this meeting that AAIB voted to cooperate with other organizations to form a general organization for the prevention of blindness. It also resolved to do everything possible to encourage and financially support the *Outlook for the Blind*, which had its foundation in 1907 under the editorial management of Charles F. Campbell.

Meeting # 22

Place: West Pennsylvania School for the Blind,
Pittsburgh, June 25, 26 and 27, 1912,
Officers 1912-1915

President: E. E. Allen (1867-1950), Director, The Perkins School for the Blind; Corresponding Secretary of AAIB (1906-1908) and on the Board (1892-1894, 1898-1906 and 1910-1912)

Vice-Pres.: J. E. Ray (North Carolina) and T. S. McAloney (West Pennsylvania)

Recording Secretary: E. D. Eaton (Iowa)

Corr. Secretary: W. B. Wait (New York)

Treasurer: F. H. Manning (Alabama)

Board Members: Driggs (Utah), Allen (Massachusetts), Miss Lounsbury (New York), Gardiner (Ontario), Oliphant (Georgia)

Retiring President Lucas urged a closer union of the AAIB and AAWB. The uniform type committee, which was appointed in 1905 and composed of five members, was enlarged to ten in 1909 and made a report of progress. The report on a uniform eye record card was adopted.

It would be three years before the next convention would meet, as the membership wanted it held during the year of the California Exposition.

Meeting # 23

Place: Berkeley, California, June 28, 29 and 30, 1915, Officers 1915-1916

President: O. H. Burritt (1867-1949), Superintendent, Pennsylvania School for the Blind; Vice-President of AAIB (1902-1904 and 1906-1908) and on the Board (1908-1910)

Vice-Pres.: F. Driggs (Utah) and Miss Susan Merwin (Kentucky)

Recording Secretary: E. P. Moores (Oregon)

Treasurer: J. F. Bledsoe (Maryland)

Board Members: Hamilton (New York), Milligan (California), Manning (Alabama), Green (Missouri), Burritt (Pennsylvania)

Both AAIB and AAWB received bronze medals when the first joint session of these two organizations was held at Festive Hall, Exposition Grounds. Many members of the two organizations had high hopes that this would be a historic landmark leading to closer harmony between the educators and the workers.

On July 1, 1915, a special meeting of AAIB was called to take up the question of printing the New Standard Dot System and introducing it for trial in the schools of the

California Convention of the American Association of Instructors of the Blind and the American Association of Workers for the Blind, 1915

Association. This motion carried unanimously. Mr. Dow moved that a committee of three be appointed by the president to confer with the English-speaking world in an endeavor to secure uniformity. The committee would cooperate with AAWB in this matter. In actual fact the AAWB braille study committees had taken over the leadership with respect to embossed type, which was about to enter upon a new period of frustration in negotiations with British authorities. However, this could not be foreseen and hardly accounts for a certain inactive harmony which those who attended this convention sensed at the time and recalled thereafter. Several factors accounted for this, one of which was that both instructors and workers were trying a little too hard to get along with each other. The Proceedings were remarkably arid and pedestrian. Only once did one member of AAWB come close to airing the problem which existed between the two organizations, saying, " . . . our good brothers, the instructors. They are much older and much more learned than we and we hope to have the privilege of continually sitting at their feet and drinking in wisdom, with the exception that occasionally, we want to do as they do in the Episcopal Church – get up and answer back."

This was a prelude to the report of the AAWB uniform type committee which espoused braille, the sharpest "answer back" so far delivered to the AAIB which had once officially sanctioned New York Point. AAIB appointed a committee to cooperate, but no plans were made for further joint meetings.

Meeting # 24

Place: Halifax, Nova Scotia, July 4, 5 and 6, 1916, Officers 1916-1918

President: T. S. McAloney (1869-1932), Superintendent, Western Pennsylvania School for the Blind; Vice-President of AAIB (1912-1915), Recording Secretary (1908-1910) and on the Board (1916-1918)

Vice-Pres.: S. M. Green (Missouri) and G. F. Oliphant (Georgia)

Recording Secretary: E. D. Eaton (Iowa)

Treasurer: J. F. Bledsoe (Maryland)

Board Members: Van Cleve (New York), Menzemer (Montana), Walker (Florida), Miss Turner (Wisconsin), McAloney (Pennsylvania)

The committee on braille recommended that "revised Braille" be adopted, provided the English Committee on Uniform Type came to full agreement with the American Committee. The committee asked to be continued in spite of the fact that it had been eighteen years studying the matter. The debate which followed was a heated one. Finally speakers were given only five minutes for their remarks, but as in all debates, words, difficulties of communication and the meanings of speakers caused long rebuttals and much ill feeling. The report was finally adopted with only four against it. Dr. Hayes appeared for the first time with his "Psychology of the Blind."

Meeting # 25

Place: Colorado School, Colorado Springs, June 24-28, 1918, Officers 1918-1920

President: W. K. Argo (1847-1921), Superintendent, Colorado School; Vice-President of AAIB (1910-1912)

Vice-Pres.: E. M. Van Cleve (New York)

Recording Secretary: S. M. Green (Missouri)

Corr. Secretary: H. J. Menzemer (Montana)

Treasurer: G. F. Oliphant (Georgia)

Board Members: Bledsoe (Maryland), Hooper (Wisconsin), Chapman (California), Bramlett (Texas), Abbott (Nebraska)

The third report of the Commission on Uniform Type was accepted with the result that revised Braille, Grades 1 and 2, was adopted. The committee was again enlarged and a committee on efficiency was appointed.

Meeting # 26

Place: Maryland School, Baltimore, June 21-25, 1920, Officers 1920-1922

President: E. M. Van Cleve (1868-1937), Principal, New York Institute; Vice-President of AAIB (1918-1920), on the Board (1916-1918) and later Recording Secretary (1924-1928) and Treasurer (1924-1928)

Vice-Pres.: J. F. Bledsoe (Maryland) and S. M. Green (Missouri)

Secretary: C. A. Hamilton (New York)

Treasurer: B. P. Chapple (North Dakota)

Board Members: Miss Merwin (Kentucky), Race (Ontario), Pratt (New Mexico), McManaway (Virginia), Irwin (Ohio)

AAIB protested the ruling of the Federal Board for Vocational Education which classified blind people as defectives and delinquents or words to that effect. It also approved of sight-saving classes in the public schools. The convention went on record as stating that the feeble-minded blind belonged in schools for the feeble-minded.

Meeting # 27

Place: Texas School, Austin, June 27, 28 and 29, 1922, Officers 1922-1924

President: J. F. Bledsoe (1869-1946), Superintendent, Maryland School for the Blind; Vice-President of AAIB (1920-1922), on the Board (1918-1920 and 1908-1910), Treasurer (1915-1918) and Recording Secretary (1910-1912)

Vice-Pres.: S. M. Green (Missouri) and G. F. Oliphant (Georgia)

Secretary: Miss Susan Merwin (Kentucky)

Treasurer: H. M. Menzemer (Montana)

Board Members: McManaway (Virginia), Driggs (Utah), Palmer (Iowa), Lineberry (North Carolina), Hicks (Connecticut)

It was at this meeting that the Association endorsed the American Foundation for the Blind which had been organized by AAWB at Vinton, Iowa, in 1921. Separate meetings of superintendents, teachers and librarians were held. A resolution was passed which stated that it was unwise to establish courses for the industrial training of adults in conjunction with pupils of school age.

The Commission on Uniform Type recommended that AAIB and AAWB request that AFB take over the committee on uniform type for the blind on and after July 1, 1923. It was recommended that the word "revised," used in reference to "revised Braille," be eliminated, as it had become "both ambiguous and equivocal in its use in connection with braille literature and with braille music." The need for regional libraries was called to the attention of the convention.

Meeting # 28

Place: Perkins School, Watertown, Massachusetts, June 24, 25 and 26, 1924, Officers 1924-1926

President: G. F. Oliphant (1874-1946), Superintendent, Georgia Academy for the Blind; Vice-President of AAIB (1916-1918 and 1922-1924), Treasurer (1918-1920) and later on the Board (1932-1934)

Vice-Pres.: S. K. Green (Missouri) and J. T. Hooper (Wisconsin)

Secretary & Treasurer: E. M. Van Cleve (New York)

Board Members: Chapple (North Dakota), Wampler (Tennessee), Race (Ontario), Miss Blake (Colorado), Hayes (Massachusetts)

A resolution was passed which commended the establishment of "lecture and normal training courses dealing with the problem of the blind and the training of teachers of the blind." Not only had Perkins started its "Harvard Course" but Mr. Wampler of Tennessee had begun summer courses for teachers of the blind with the cooperation of George Peabody College for Teachers.

Meeting # 29

Place: Tennessee School, Nashville, June 22, 23 and 24, 1926, Officers 1926-1928

President: S. M. Green (1867-1941), Superintendent, Missouri School for the Blind; Vice-President of AAIB (1916-1918 and 1920-1926), Recording Secretary (1918-1920) and on the Board (1906-1912 and 1915-1916)

Vice-Pres.: J. T. Hooper (Wisconsin) and I. S. Wampler (Tennessee)

Secretary-Treasurer: E. M. Van Cleve (New York)

Board Members: Joice (Pennsylvania), Walker (South Carolina), Small (Colorado), Stewart (Oklahoma), Miss Frisby (Missouri)

This convention was programmed for teachers, trying to bring them the help they might need and making them feel they were a part of the Association.

Resolutions approved were: "That the AAIB approves the establishment of summer schools for the adult blind.

"That, the publishing houses of braille books substitute interpointing for the one-sided braille, thus saving paper and making fewer volumes.

"That, the Association approves Principal Burritt's paper on 'Sex Education' and that a character training committee be appointed to carry out Mr. Burritt's suggestions."

Meeting # 30

Place: Minnesota School, Faribault, June 26, 27 and 28, 1928, Officers 1928-1930

President: J. T. Hooper (1867-1938), Superintendent, Wisconsin School for the Blind; Vice-President of AAIB (1924-1928) and on the Board (1918-1920)

Vice-Pres.: C. A. Hamilton (New York) and B. P. Chapple (North Dakota)

Secretary-Treasurer: B. S. Joice (Pennsylvania)

Board Members: French (California), Wampler (Tennessee), Caldwell (Louisiana), Mrs. Chapman (Washington) and Mrs. Coville (Virginia)

It was reported that twenty blind teachers were at that time, or previously had been, teaching in sighted schools, some as early as 1914. States in which these blind were employed were: North Carolina, Rhode Island, New Jersey, Pennsylvania, New York, Mississippi, California, Utah, Illinois, Ohio and Missouri.

A report was made that the John Milton Foundation had been established March 1, 1928. This foundation is now known as the John Milton Society for the Blind.

The committee on the definition of blindness brought in a report which stated: "It is the judgment of the present committee that the definition of blindness as used by the United States Census Bureau states: 'A blind person is one who cannot see to read a book or other printed material even with the aid of glasses [and thereby] meets the requirements.' " The committee was continued.

The committee on platform of principles made its report of seventeen declarations. Among the resolutions adopted were:

That, a professional periodical be published in the field of the education of the blind.

That, Overbrook be commended for the work in establishing opportunities for the training of home teachers of the blind.

That, Dr. Richard L. French's manuscript on "The Education of the Blind" be published.

That, a joint committee of AAIB and AAWB be established to work out plans for an international conference of the blind to be held in the United States.

That, a committee of five be appointed to work out an improved method of securing comprehensive, uniform and accurate statistics pertaining to the blind.

That, AAIB cooperate with the National Association of Instructors of the Deaf to consider the feasibility of a sane plan for the education of the deaf-blind.

That, AAIB should in some way be affiliated with the National Education Association.

Meeting # 31

Place: Washington School, Vancouver, June 24, 25 and 26, 1930, Officers 1930-1932

President: B. P. Chapple (1864-1942), Superintendent, North Dakota School for the Blind; Vice-President of AAIB (1928-1930), on the Board (1924-1926) and Treasurer (1920-1922)

Vice-Pres.: R. S. French (California) and Mrs. Chapman (Washington)

Secretary-Treasurer: B. S. Joice (Pennsylvania)

Board Members: Caldwell (Louisiana), Abbott (Nebraska), Settles (Idaho), Mrs. Stewart (Oklahoma), Cowgill (Pennsylvania)

The committee on world conference reported that plans were under way for a meeting to be held in the spring of 1931 in New York City to which experts in the field of work for the blind throughout the world would be invited.

The committee on hereditary blindness recommended that superintendents of schools for the blind cooperate with state Societies for the Prevention of Blindness and state Boards of Health in obtaining data concerning the causes of blindness and inaugurating programs of prevention.

Meeting # 32

Place: New York Institute, New York City, June 27-July 1, 1932, Officers 1932-1934

President: C. A. Hamilton (1866-1943), Superintendent, New York State School for the Blind; Vice-President of AAIB (1928-1930), Recording Secretary (1920-1922) and on the Board (1910-1912 and 1915-1916)

Vice-Pres.: F. E. Palmer (Iowa)

Secretary-Treasurer: B. S. Joice (Pennsylvania)

Board Members: Lineberry (North Carolina), Woolston (Illinois), Mrs. Oliphant (Georgia), Pitts (Maryland), Miss Peterson (Washington)

There is a wealth of material available in the report of this convention concerning leaders and important people in the field. A resolution was adopted to the effect that our country should cooperate with England in accepting certain contractions and to "take such steps as it may deem necessary to ensure continuance of uniformity in the braille system so far as is possible through moral persuasion, and to improve printing practices among braille embossers of the English language."

The committee on the definition of blindness reported lack of cooperation on the part of the National Association of Ophthalmologists, but unusually fine work from Dr. Royer. He had formulated tables for the classification of the blind based on amount of visual perception which had been used by doctors in New Jersey. The committee asked to be discharged.

Meeting # 33

Place: Missouri School, St. Louis, July 25, 26 and 27, 1934, Officers 1934-1936

President: F. E. Palmer (1863-1950), Superintendent, Iowa School for the Blind; Vice-President of AAIB (1932-1934) and on the Board (1922-1924)

Vice-Pres.: G. E. Lineberry (North Carolina)

Secretary-Treasurer: B. S. Joice (Pennsylvania)

Board Members: Potts (Idaho), Ganey (Alabama), Meldrum (Oklahoma), Miss Dustin (New York), Miss Totman (Ohio)

Katheryn Maxfield discussed the work that should be done for preschool blind children. (If teachers feel they are underpaid, it is suggested they turn to page 24 of this convention and see what the highly paid teacher received in those good old days.)

Meeting # 34

Place: North Carolina School, Raleigh, June 22, 23 and 24, 1936, Officers 1936-1938

President: G. E. Lineberry (1870-1952), Superintendent, North Carolina School for the Deaf and Blind; Vice-President of AAIB (1934-1936) and on the Board (1922-1924 and 1932-1934)

Vice-Pres.: J. S. Ganey (Alabama)

Secretary: Treasurer: B. S. Joice (Pennsylvania)

Board Members: Woolston (Illinois), Miss Abel (Idaho), Meyer (Minnesota), Scarberry (Ohio), Andrews (Massachusetts)

A report from the American Printing House for the Blind told of a nationwide campaign to raise funds for a braille edition of *Reader's Digest* and the publication of experimental sight saving books.

Resolutions were passed concerning the appointment of a committee to make an extensive survey and study of industrial arts and a committee to keep tabs on all federal legislation relating to the blind.

Meeting # 35

Place:	Michigan School, Lansing, June 27-30, 1938, Officers 1938-1940
President:	J. S. Ganey (1880-1965), Superintendent, Alabama Institute for the Deaf and Blind; Vice-President of AAIB (1936-1938) and on the Board (1934-1936)
Vice-Pres.:	R. W. Woolston (Illinois)
Secretary-Treasurer:	J. G. Cauffman (Michigan)
Executive Committee:	Scarberry (Ohio), Morrow (Arizona), Spellings (Pennsylvania), Langan (Maryland), Wright (New York)

The executive committee of AAIB with the president of AAWB appointed a Joint Findings Committee to study work for the blind in the United States. This committee reported the following objectives: (1) to formulate aims for a national program for the blind, (2) to determine the future programs of AAIB and AAWB, (3) to analyze and evaluate existing programs of the many national and semi-national organizations serving the blind. It also recommended closer cooperation of the two professional organizations, the continuation of the committee and the appropriation of $1,000.00 to help meet the expenses of the committee.

A permanent teacher certification committee composed of superintendents and principals was appointed. The meeting was much concerned with an adequate course of study. Dr. Quimby had presented a course of study two years before and now added to it.

Meeting # 36

Place:	Western Pennsylvania School, Pittsburgh, June 24-28, 1940, Officers 1940-1944
President:	R. W. Woolston (1875-1947), Superintendent, Illinois School for the Blind; Vice-President of AAIB (1938-1940) and on the Board (1932-1934 and 1936-1938)
Vice-Pres.:	W. G. Scarberry (Ohio)
Secretary-Treasurer:	J. G. Cauffman (Michigan)
Executive Committee:	Joice (Pennsylvania), Kaufman (Colorado), Brayer (New York), Allen (Texas), Mrs. Woodward (Alabama)

In his "President's Address" Dr. Ganey, as a veteran educator in the field, laid chief emphasis on his concern for unsolved problems, both with respect to education and employment. He directed his optimism toward "the most progressive step by far which our two great organizations, AAIB and AAWB, have made . . . that . . . study and investigation known as the Joint Findings Committee."

The report of this committee was given by its chairman, J. C. Lysen. Its substance has a rather poignant interest in retrospect. For the first time AAIB and AAWB had made definite progress in laying plans for a coordinated research program making use of a variety of people with prestige and talent. But by the time Mr. Lysen delivered his report, World War II had suddenly become real. That very week the fall of France was under way, with bulletins concerning the capture of Paris distracting the delegates to the convention. Undoubtedly one of these prompted Mr. Lysen to preface his report by saying, "Whether or not war comes to the Western Hemisphere, we, who are engaged in work for the blind, will need to think clearly and quickly lest our ideals and past efforts be swallowed up in the readjustments, which inevitably follow cataclysmic war in any part of the world."

Though attempts to atone for war blindness were to produce certain remarkable results, there is no question that the energies mustered by the Joint Findings Committee were to be drained off in the ensuing four years during which it was not possible for AAIB to hold its regular meeting.

For the most part the papers delivered at the 1940 convention show attention to business without a sense of foreboding. They included: "Reflections from an Ivory Tower" by Gabriel Farrell, "Common Cultural Relationships with South America" by Merle E. Frampton, "Work for the Blind in India" by Amal Shah, together with many hardy perennial subjects.

Meeting # 37

Place:	Arkansas School, Little Rock, June 26-29, 1944, Officers 1944-1946
President:	W. G. Scarberry (Living), Superintendent, Ohio State School for the Blind; Vice-President of AAIB (1940-1944) and on the Board (1936-1940)
Vice-Pres.:	W. E. Allen (Texas)
Secretary-Treasurer:	J. G. Cauffman (Pennsylvania)
Executive Committee:	Andrews (Maryland), Davis (Arkansas), Gill (Louisiana), Mrs. Carpenter (Missouri), Miss Abel (Iowa)

Four years had elapsed since the last convention due to World War II. A most important report was made on the Survey of Medical Care of Eye Conditions among Pupils in Schools for the Blind. The legislative committee reported that a Joint Legislative Committee of AAIB and AAWB should be formed and should meet regularly in January of each year and at each convention of the two organizations. On March 17, 1944, the executive committee voted that the America Printing House be entitled to membership in AAIB and that its superintendent be designated as its official delegate with voting privileges. The same was granted to the American Foundation for the Blind. A resolution

urging the cooperation of the Veterans Administration in regard to immediate comprehensive programs for blinded veterans was adopted.

Meeting # 38

Place: Perkins Institute, Watertown, Massachusetts, June 24-27, 1946, Officers 1946-1948

President: W. E. Allen (1895-Living), Superintendent, Texas School for the Blind; Vice-President of AAIB (1944-1946) and on the Board (1940-1944)

Vice-Pres.: F. M. Andrews (Maryland) and F. E. Davis (Arkansas)

Secretary-Treasurer: J. G. Cauffman (Pennsylvania)

Executive Committee: Quimby (New Mexico), Sherman (Massachusetts), Lysen (Minnesota), Mrs. Marchisio (New Jersey), Mrs. DeVerdiales (Puerto Rico)

A paper by Lt. Richard Hoover on "Foot Travel at Valley Forge" was read at a general meeting of this convention. At the time few people realized that this seemingly simple technique with the long cane was to be one of the most practical innovations to come from World War II. Many in the audience politely observed, "Why, this is what we have been doing all along except of course we don't teach them to use canes. They don't need canes."

In the twenty-five years since, we have realized we had gotten into a kind of dream of politeness about the performance of many of our blind graduates. The widespread adoption of a thorough system of teaching mobility and orientation has in fact redirected our attention to the basic essential – that education of the blind teaches blind people how to function without eyesight.

A poignant aspect of this convention was the frequenting of it by Dr. Edward E. Allen, the last time he was to appear visiting and reminiscing freely in his distinctive voice, sending down the corridors such statements as, "I thought I built this place so you couldn't mix boys and girls." Yet at this point, seemingly reconciled, he viewed the changing world in his 80th year.

The planners of this convention believed it would be helpful if speakers outside the field of the blind would speak. Educators from Harvard, Boston University and Wheelock took an active part in the proceedings.

A resolution concerning the Social Security Act brought forth some spicy comments and was defeated.

Meeting # 39

Place: Texas School, Austin, June 21-24, 1948, Officers 1948-1950

President: F. M. Andrews (1895-Living), Superintendent, Maryland School for the Blind; Vice-President of AAIB (1946-1948) and on the Board (1936-1938 and 1944-1946)

Vice-Pres.: F. E. Davis (Kentucky) and N. F. Quimby (New Mexico)

Secretary-Treasurer: E. N. Peeler (North Carolina)

Executive Committee: Cauffman (Pennsylvania), Lysen (Minnesota), Thompson (Missouri), Miss Oberly (Pennsylvania), Miss Lewis (Texas)

Delegates from Monterey, Mexico, Mexico City, Panama and Venezuela were present.

It was at this convention that feelings ran high concerning residential schools and public school classes. The great increase in blindness due to retrolental fibroplasia made it impossible for residential schools to care for all the blind. Parents were frustrated and the cry was heard, "Don't throw your child into a residential school. Keep him home and send him to the public schools with seeing children." Too many educators forgot they were teaching blind children with individual differences, varied potentials, etc., and talked only of the high claims of their particular system. Yet the heat generated never reached that of the battle of the types. Slowly the two points of view were reconciled.

In 1947 Mr. W. E. Allen attended a meeting of the National Rehabilitation Association to investigate the possibility of AAIB becoming affiliated with NRA. The executive committee of AAIB voted against any such affiliation.

Meeting # 40

Place: Overbrook School, Philadelphia, Pennsylvania, June 26-29, 1950, Officers 1950-1952

President: F. E. Davis (1911-Living), Superintendent, American Printing House for the Blind; Vice-President of AAIB (1946-1950) and on the Board (1944-1946)

Vice-Pres.: N. F. Quimby (New Mexico) and J. C. Lysen (Minnesota)

Secretary-Treasurer: E. N. Peeler (North Carolina)

Executive Committee: Thompson (Missouri), Overbeay (Iowa), Heisler (Virginia), Miss Chatfield (Ohio), Miss Taylor (New Jersey)

Congress was asked to increase the authorization of the appropriation to APH from $125,000.00 to $250,000.00.

A committee of five was appointed to evaluate the present constitution and propose changes. It was suggested that regional meetings be held.

Closer cooperation with AAWB was urged. AAIB was to cooperate with AAWB and AFB in preparing a statement of philosophy and activity for the health, homelife, etc., of handicapped children for the mid-century White House Conference.

Meeting # 41

Place: Kentucky School, Louisville, June 29-July 2, 1952, Officers 1952-1954

President: N. F. Quimby (1907-1961), Superintendent, New Mexico School for the Blind; Vice-President of AAIB (1948-1952) and on the Board (1946-1948)

Vice-Pres.: J. C. Lysen (Minnesota) and R. H. Thompson (Missouri)

Secretary-Treasurer: E. N. Peeler (North Carolina)

Executive Committee: Kerr (Pennsylvania), Mrs, Daugherty (Oklahoma), Heisler (Virginia), Overbeay (Iowa), Miss Ricks (Alabama)

This was a joint meeting of AAIB and AAWB. Thirty-seven years had gone by since the first joint meeting had been held. A good example of the interdependency of the two organizations was that of the work of the Joint Uniform Braille Commission. Another move toward better understanding was that the AFB board of directors had voted in June, 1952, to elect to its membership the presidents of AAIB and AAWB.

A number of regional conferences were held during this biennium.

Dr. Robert Thompson was responsible for developing this "Workshop Conference." His charge to the convention had all the earmarks of some of those fiery speeches of the early days when punches were not pulled. Dr. Thompson did much to bring new life and enthusiasm to AAIB.

The Superintendents' Workshop was very much concerned with the education of the partially sighted child. It was also most critical of the article in the *Sight Saving Review* in which the National Society for the Prevention of Blindness attacked the residential schools. It was suggested that a committee from AAIB, AFB and the National Society for the Prevention of Blindness be appointed to reach agreement on policy and standards of education of the partially sighted.

Meeting # 42

Place: New York State School, Batavia, June 27-July 1, 1954, Officers 1954-1956

President: J. C. Lysen (1900-1969), Superintendent, Minnesota Braille and Sight Saving School; Vice-President of AAIB (1950-1954) and on the Board (1946-1950)

Vice-Pres.: R. H. Thompson (Missouri) and D. W. Overbeay (Iowa)

Secretary-Treasurer: J. J. Kerr (Pennsylvania)

Executive Committee: Woolly (Arkansas), Miss Cox (South Carolina), Miss Poston (Louisiana), Chard (Michigan), Mrs. Grew (Washington)

Attendance had increased to 300 and membership to 1000 members. Retiring President Quimby pointed out the need for a full time secretary and an educational publication. Robert Barnett's report of AFB did much to clarify misunderstandings between it and AAIB. AFB asked for long range planning for the deaf-blind. The International Conference held at Perkins in 1953 was indeed the foundation upon which this work has grown, not only in this country but throughout the world.

The president was requested to take all steps necessary to acquaint teachers of the blind with the provisions of their membership in the association.

The first workshop for house parents was held at this convention with forty men and women attending.

In 1953 a policy committee composed of Francis Andrews, Frank Johns, Jr., Donald Overbeay, Edward Waterhouse and Robert Thompson was appointed by President Quimby. This committee worked hard to produce something they felt was important. Its first report to the convention brought forth quite a debate, some of which was bitter, with the results that no part of the report would be issued at that time, that the letter of transmittal should not be a part of the report and that the committee be instructed to rephrase that section which dealt with the education of the blind child no matter where he was educated. The incoming president, John Lysen, promised to keep the committee working. It was also noted that the Association was emerging from the administration type of convention to one designed for classroom teachers, house parents and others.

Meeting # 43

Place:	Ohio School, Columbus, June 24-26, 1956, Officers 1956-1958
President:	R. H. Thompson (1909-Living), Superintendent, Missouri School for the Blind; Vice-President of AAIB (1952-1956) and on the Board (1948-1952)
Vice-Pres.:	D. W. Overbeay (Iowa) and Miss Lois Cox (Maryland)
Secretary-Treasurer:	J. J. Kerr (Pennsylvania)
Executive Committee:	Mrs. Hayes (Connecticut), Peeler (North Carolina), Woolly (Arkansas), Mrs. Traub (Kentucky), Tacquard (Texas)

Considering all the new projects discussed, this convention marked a turning point in the growth of AAIB. Thirty-seven workshops were scheduled, an increase of fourteen over 1952. Paul Langan, editor of the *International Journal for the Education of the Blind*, showed that this publication, established in 1951, was on firm ground. Mr. Edward Waterhouse reported on the International Conference of Educators of Blind Youth to be held in Oslo. A committee composed of Robert Thompson, Finis Davis and Edward Waterhouse was appointed to select the United States delegation to this conference. A number of members felt that since AAIB was paying part of the expenses of the delegates that the membership should be given the opportunity to vote on these delegates. It was suggested that in the future a list of delegates be submitted to the membership for consideration. It was intimated by a member of the committee that the membership was not qualified to vote on such a matter. Nothing came of the suggestion, but at least some were able to let off steam.

Mr. Barnett gave a most comprehensive report of recent activities of AFB. There had been a strong feeling in AAIB that AFB was not cooperating with it and was in fact very much opposed to residential schools. His report did much to clear the air. Dr. Thompson thanked Mr. Barnett for the policy he had so carefully indicated. So peace descended.

There was much opposition from the delegates to the proposal that dues be increased from $3.00 to $4.00. Members of the Board were pessimistic but when a prominent educator walked on the stage in scotch plaid shorts and vest to match and moved that the dues be raised, the assembled delegates were so taken aback and overcome that the motion was carried before the delegates fully realized what they had done.

Dr. Thompson gave the report of the policy committee, but the delegates were not satisfied and changes were suggested. It was also suggested that said policy be reviewed often. Has this been done?

Dr. Thompson, the incoming president, presented a twelve point challenge to the Association to:

1. Appoint a long range planning committee.
2. Develop an evaluation instrument.
3. Eliminate the conflict of program pitted against program.
4. Begin a program of teacher recruitment.
5. Establish a permanent office with full time Executive Secretary.
6. Pay travel expenses for the board.
7. Create a smaller executive committee.
8. Absorb the cost of the *International Journal for the Education of the Blind.*
9. Work toward increased membership.
10. Obtain more funds to carry on a vigorous program.
11. Work closely with sister organizations.
12. Investigate the advantages of legal incorporation.

Meeting # 44

Place:	Washington School, Vancouver, June 22-28, 1958, Officers 1958-1960
President:	D. W. Overbeay (1910-Living), Superintendent, Ohio School for the Blind; Vice-President of AAIB (1954-1958) and on the Board (1950-1954 and 1960-1962)
Vice-Pres.:	Miss Lois Cox (Maryland) and J. M. Woolly (Arkansas)
Secretary-Treasurer:	J. J. Kerr (Pennsylvania)
Executive Committee:	Thompson (Michigan), Mrs. Hayes (Connecticut), Hauck (Ohio), Iverson (Florida), Mrs. Traub (Kentucky) and Wilcox (Oregon)

It was reported that the long range planning committee, which was composed of the president, the vice-president, the second vice-president and the secretary-treasurer, had met several times and that Mr. Peeler and his committee were working hard on an evaluation instrument.

There was less friction between programs as evidenced by an increase in membership of the day school teachers.

The Avalon Foundation had, it was announced, made a grant of $10,000.00 to help teacher recruitment.

It was pointed out that Dr. Merle Frampton had been subsidizing the *International Journal* for many years and the time had now come for AAIB to take over that cost. (This did not occur until 1966, however.)

The establishment of an Institute for House Parents at Washington University, as well as other institutes for the summer of 1958, was made possible by a grant of $12,000.00 from AFB.

It was announced that the Association had been incorporated under the laws of the Commonwealth of Kentucky, and the board was authorized to establish a central office.

Meeting # 45

Place: Tennessee School, Donelson, June 26-27, 1960, Officers 1960-1962

President: Miss Lois Cox (1911-Living), Principal, Maryland School for the Blind; Vice-President of AAIB (1956-1960) and on the Board (1954-1956 and later 1962-1964)

Vice-Pres.: J. M. Woolly (Arkansas) and L. A. Iverson (Iowa)

Secretary-Treasurer: J. J. Kerr (Pennsylvania)

Board of Directors: Overbeay (Ohio, Ex-officio), Armstrong (Ontario), Miss Davis (Georgia), Davis (Massachusetts), Hack (South Dakota), and Huckins (California)

Retiring president Overbeay listed the Association's needs as follows:

1. Improved in-service training for teachers of blind children.
2. More teacher-training centers.
3. Higher standards of certification for professional personnel.
4. A periodic and comprehensive census of pre-school age blind children.
5. Additional staff in the U.S. Office of Education to study standards, engage in research, encourage responsibility in organizing, financing and administering programs related to the education of blind children.
6. An amendment to Public Law 531 so agencies such as APH could apply for and receive funds to carry on needed research.

7. The removal of the "Authorization Ceiling" for APH and an increase in the annual appropriation to $1,000,000.00.
8. A special appropriation of $300,000.00 to permit APH to stockpile an inventory of books.*
9. Regional diagnostic centers for multiple-handicapped blind children.

Egbert Peeler and his committee had worked hard on their studies of: Standards of Construction of Buildings, Standards of Teaching Industrial Arts, etc. The recommendations of this committee should go a long way in helping every school to improve itself. One wonders if these suggestions were followed and the work of this committee appreciated. Peeler may have had this thought in mind when he said, "Theoretically, the Committee on Standards and Evaluation has a great and glorious future because most of its work has not been done. It, of course, may never be done unless AAIB sees the great need for it and plans effectively for its activities."

Through the generosity of the Missouri School for the Blind, the office of the Executive Secretary of AAIB was established there at no cost to the Association. Mr. Maurice Olson, the first Executive Secretary, reported that a Subcommittee on Special Education of the Committee of Education and Labor of the U.S. House of Representatives had been studying the needs of exceptional children and had been holding hearings throughout the states.

Regional meetings had been most successful. House parents met at Williamette University, Oregon, and the State University of Iowa. Workshops for teachers of the blind were held in California and Ohio. Conferences on guidance were held at Perkins, piano technicians at Batavia, and mathematics at Staunton.

Resolutions passed were:

1. All residential schools should come under the benefits of Public Law 864.
2. The selection committee for delegates to attend I.C.E.B.Y. shall submit a panel of nominees to the membership from which the delegates shall be chosen.
3. AFB and the Avalon Foundation were thanked for their financial support. Without the assistance of AFB, it is doubtful if the Association could have survived.

Meeting # 46

Place: Deauville Hotel, Miami Beach, Florida, June 28 - July 2, 1962, Officers 1962-1964

President: J. M. Woolly (1914-Living), Superintendent, Arkansas School for the Blind; Vice-President of AAIB (1958-1962) and on the Board (1954-1958 and later 1964-1966)

Vice-Pres.: L. A. Iverson (Iowa) and S. E. Armstrong (Ontario)

Secretary-Treasurer: J. J. Kerr (Pennsylvania)

*No such appropriation was ever made.

Board of Directors: Miss Cox (Maryland, Ex-officio), Davis (Massachusetts), Miss Eisnaugle (Ohio), English (Virginia), Jones (Washington, D.C.) and Lown (Georgia)

Since membership had grown to such proportions, it seemed wise to move the site of the meeting from a school to a hotel. Miss Lois Cox, the first woman to become president of the Association, had kept things humming with fifteen committees carrying out various assignments. The Policy Statement as submitted by Russ Huckins was accepted, but it was a far cry from the one submitted a few years earlier. Many workshops were held during the biennium.

Meeting # 47

Place: Perkins School, Watertown, Massachusetts, June 21-25, 1964, Officers 1964-1966

President: L. A. Iverson (1924-Living), Director, Education and Rehabilitation Services, Illinois Department of Children and Family Services; Vice-President of AAIB (1960-1964) and on the Board (1958-1960 and later 1966-1968)

Vice-Pres.: S. E. Armstrong (Ontario) and W. E. English (Virginia)

Secretary-Treasurer: C. J. Davis (Massachusetts)

Board of Directors: Woolly (Arkansas, Ex-officio), Ashcroft (Tennessee), Miss Baugh (Maryland), Jones (Washington, D.C.), Mrs. Root (New York) and Wilcox (California)

There had been a gentlemen's agreement a few years earlier that the Association would meet at Perkins in 1964. Membership by this time had reached a high of 2355 with 83 life members. The convention got off to a good start with Dr. Greer, Executive Secretary of the Council for Exceptional Children, as speaker. Many panels on the multiple-handicapped followed. New methods of teaching math were demonstrated.

Retiring President Woolly pointed out with pride that the Industrial Workshop at Oswego, New York, would function again for the fourth summer. Also a Physical Education Workshop was to be conducted at the Michigan School.

It was during this period that the Commission on Standards and Accreditation of Services for the Blind was appointed by Mr. Jansen Noyes, Jr., President of the American Foundation for the Blind.

Congress passed Public Law 88-164; Title III of the act provides training centers for teachers, including teachers of the blind. Fourteen training centers for teachers of the blind were approved with an appropriation of $499,000.00 – a big step forward.

President Woolly voiced his concern for AAIB's financial future. He suggested that an individual whose salary was under $5,000.00 annually might pay the base fee of $10.00 per year; between $5,000.00 and $7,000.00 the fee might be $12.50 and so on with the schedule encompassing the top salary received by anyone in the Association, or a base fee of $10.00 might be established with ¼ of 1% being charged for all salaries above $4,000.00.

Two important resolutions were passed:

1. That AAIB affiliate with CEC.
2. That the "Code of Ethics of the Education Profession" be adopted.

Meeting # 48

Place: Salt Lake City, Utah, June 26-30, 1966, Officers 1966-1968

President: S. E. Armstrong (1916-1972), Superintendent, Ontario School for the Blind; Vice-President of AAIB (1962-1966) and on the Board (1960-1962 and later 1968-1970)

Vice-Pres.: W. E. English (Virginia) and C. J. Davis (Massachusetts)

Secretary-Treasurer: Mrs. Mary Bauman (Pennsylvania)

Board of Directors: Iverson (Illinois, Ex-officio), Mrs. Root (New York), Dr. Barraga (Texas), Miss Misbach (California), Chiles (Arkansas) and Jones (Georgia)

This convention concentrated on research – past, present and future – specifically the problem that there was no place where all research could be deposited; therefore, there was much duplication and few knew what had already been done.

Mr. Paul Thompson became the new Executive Secretary.

The Board of Directors authorized the removal of AAIB headquarters from the Missouri School to Washington, D.C., as it was believed that the Association should be in the District of Columbia where it was possible to keep track of the political pot. This meant spending money for headquarters which up to this time had not cost anything. It was an expensive move and one which in the end proved to be of no value.

A committee was appointed to look into the possibility of changing the name of the Association and to report at the next meeting. A few minor changes were made in the constitution and by-laws, but the proposal that the necrology committee be abolished was lost. Many members believed that the few minutes given to memorializing those teachers, house parents and others who had, in many instances, given years to the betterment of visually handicapped youth should continue.

During these two years the cooperation of AAIB with numerous schools for the blind, several colleges, the Vocational Rehabilitation Administration and the American Foundation for the Blind paved the way for several very important conferences.

A resolution was passed urging the Secretary of Health, Education and Welfare to make a complete survey of children in the United States who, because of maternal rubella, would need special education programs.

Dues were adjusted upward to begin in 1968. Those for student, agency, corporate (per student), parent group (per individual) and house parent remained the same, but classroom teachers would pay $15.00, administrators and all others $20.00 and life membership would remain at $500.00.

Meeting # 49

Place: Toronto, Canada, June 23-27, 1968, Officers 1968-70

President: W. H. English (1929-Living), Superintendent, Wisconsin School for the Visually Handicapped; Vice-President of AAIB (1964-1968) and on the Board (1962-1964 and later 1970-1972)

Vice-Pres.: C. J. Davis (Massachusetts)

Secretary-Treasurer: Mrs. Mary Bauman (Pennsylvania)

Board of Directors: Armstrong (Ontario, Ex-officio), Dr. Barraga (Texas), Miss Colovini (Illinois), Sanborn (New York), McQuie (Missouri), Miss Misbach (California)

Mr. R. Paul Thompson, Executive Secretary, resigned in the spring of 1968, and Mr. Isaac Clayton was appointed Acting Executive Secretary for the convention. During the biennium two very successful regional conferences were held. Three hundred people from New England, Eastern United States and Canada interested in the education of the blind attended the conference in Harrisburg while ninety-seven house parents participated in the one held at Overbrook. The first AAIB Chapter (Alpha) was formed at Illinois University and right behind it was the second formed at Ogden, Utah.

Dr. Natalie Barraga became the editor of the AAIB journal.

The Board authorized a study of certification requirements and an Advisory Committee to the Braille Authority with a membership of twelve leaders and educators in the field who were appointed jointly by the presidents of AAIB and AAWB.

Sooner or later death takes all of us and it is to be hoped we go from strength to strength into a better realm. We are not reporting that the AAIB died but by vote of the convention, it was to be known as the Association for the Education of the Visually Handicapped. This change did not come about easily for there was considerable debate. Many felt that the word American should preceed Association. However, this move lost. So AAIB has become AEVH, and the least it can expect from AAIB is a benediction.

BENEDICTION

More than sixty years ago the lively and venerable Benjamin Huntoon finished his presidential greeting to AAIB by quoting a stanza of poetry with which no new generation, especially a revolutionary generation, should be expected to find itself at odds; that is, unless the 19th century diction of Oliver Wendell Holmes, Sr., is very repulsive to the up and coming of this later time. Mr. Huntoon quoted the ending of "The Chambered Nautilus," undoubtedly confident that his audience was familiar with the entire poem, partly because he had helped to bring them up in the literature of humanism, but also because the universe of all literature was much smaller than it is now.

The stanza which was in effect Mr. Huntoon's blessing on the future goes as follows:

> Build thee more
> stately mansions, O my soul,
> As the swift seasons roll!
> Leave thy low vaulted past!
> Let each new temple, nobler than the last,
> Shut thee from heaven with a dome more vast,
> Till thou at length art free,
> Leaving thine outgrown shell by life's unresting
> sea.

By the authority vested in one of the coauthors of this chronicle as a past president of AAIB (and also nephew of Benjamin Huntoon) his blessing is hereby transferred to AEVH and continued *sine die*.

APPENDIX

Preface to the Proceedings of 1944:

"For some time past it has been evident to students using the proceedings of the American Association of Instructors of the Blind, that they were incorrectly numbered; the error occurring in 1871 at the time the name of the Association was changed. Therefore, this convention in Little Rock has authorized the Secretary to make the necessary corrections; hence these proceedings become the 37th. The word "biennial" is also omitted because of the four year interval since the last convention. Following is a list of Conventions in their proper order."

EXACT TITLES OF PROCEEDINGS OF MEETINGS.*

Proceedings of the First Convention of American Instructors of the Blind, New York, August 16, 17 & 18, 1853.

Proceedings of the Second Convention of American Instructors of the Blind, Indianapolis, August 8, 9 & 10, 1871.

Proceedings of the First Meeting of the American Association of Instructors of the Blind, Boston, August 20, 21 & 22, 1872.

Proceedings of the Second Meeting of the American Association of Instructors of the Blind, Batavia, August 18, 19 & 20, 1874.

Proceedings of the Convention of the American Association of Instructors of the Blind, Philadelphia, August 15, 16 & 17, 1876.

Proceedings of the Convention of the American Association of Instructors of the Blind, Columbus, August 21, 22 & 23, 1878.

Proceedings of the Sixth Biennial Convention of the American Association of Instructors of the Blind, Louisville, August 17, 18 & 19, 1880.

---

*Supplied by courtesy of Mary K. Bauman, Executive Secretary of AEVH.

Proceedings of the Seventh Biennial Convention of the American Association of Instructors of the Blind, Janesville, August 15, 16 & 17, 1882.

Proceedings of the Eighth Biennial Convention of the American Association of Instructors of the Blind, St. Louis, August 19, 20 & 21, 1884.

Proceedings of the Ninth Biennial Meeting of the American Association of Instructors of the Blind, New York City, commencing July 6, 1886.

Proceedings of the Tenth Biennial Meeting of the American Association of Instructors of the Blind, Baltimore, commencing July 10, 1888.

Proceedings of the Eleventh Biennial Meeting of the American Association of Instructors of the Blind, Jacksonville, commencing July 15, 1890.

Proceedings of the Twelfth Biennial Meeting of the American Association of Instructors of the Blind, Brantford, Ontario, commencing July 5, 1892.

Proceedings of the Thirteenth Biennial Convention of the American Association of Instructors of the Blind, Chautauqua, July 17, 18 & 19, 1894.

Proceedings of the Fourteenth Biennial Convention of the American Association of Instructors of the Blind, Pittsburgh, July 14, 15 & 16, 1896.

Minutes. – The Fifteenth Biennial Convention of the American Association of Instructors of the Blind, Lansing, July 12, 13 & 14, 1898.

Proceedings of the Sixteenth Meeting of the American Association of Instructors of the Blind, Raleigh, July 9, 10 & 11, 1902.

Seventeenth Annual Meeting of the American Association of Instructors of the Blind, St. Louis, July 20, 21 & 22, 1904.

Eighteenth and Nineteenth Regular Meetings of the American Association of Instructors of the Blind, Portland, Vancouver, Salem, August 21, 22 & 23, 1906 and Indianapolis, July 14, 15 & 16, 1908.

Twentieth Biennial Convention, American Association of Instructors of the Blind, Little Rock, 1910.

Twenty-First Biennial Convention, American Association of Instructors of the Blind, Pittsburgh, 1912.

Proceedings of the Twenty-Second Convention of the American Association of Instructors of the Blind, Berkeley, June 28, 29 & 30, 1915.

Twenty-Third Biennial Convention, American Association of Instructors of the Blind, Halifax, 1916.

American Association of Instructors of the Blind, Twenty-Fourth Biennial Convention, Colorado Springs, 1918.

American Association of Instructors of the Blind, Twenty-Fifth Biennial Convention, Overlea, June 21 to 25, 1920.

American Association of Instructors of the Blind, Twenty-Sixth Biennial Convention, Austin, June 27 to 30, 1922.

American Association of Instructors of the Blind, Twenty-Seventh Biennial Convention, Watertown, June 23 to 27, 1924.

American Association of Instructors of the Blind, Twenty-Eighth Biennial Convention, Nashville, 1926.

American Association of Instructors of the Blind, Twenty-Ninth Biennial Convention, Faribault, 1928.

American Association of Instructors of the Blind, Thirtieth Biennial Convention, Vancouver, June 23-27, 1930.

American Association of Instructors of the Blind, Thirty-First Biennial Convention, New York City, June 27 - July 1, 1932.

American Association of Instructors of the Blind, Thirty-Second Biennial Convention, St. Louis, June 25-28, 1934.

American Association of Instructors of the Blind, Thirty-Third Biennial Convention, Raleigh, June 22-25, 1936.

American Association of Instructors of the Blind, Thirty-Fourth Biennial Convention, Lansing, June 27-30, 1938.

Thirty-Fifth Biennial Convention, American Association of Instructors of the Blind, Pittsburgh, June 24-28, 1940.

Proceedings of the 37th Stated Meeting of the American Association of Instructors of the Blind, Little Rock, June 26-30, 1944.*

Proceedings of the 38th Stated Meeting of the American Association of Instructors of the Blind, Watertown, June 24-28, 1946.

Proceedings of the 39th Stated Meeting of the American Association of Instructors of the Blind, Austin, June 21-25, 1948.

Proceedings of the 40th Stated Meeting of the American Association of Instructors of the Blind, Philadelphia, June 26-30, 1950.

Proceedings of the 41st Meeting of the American Association of Instructors of the Blind, Louisville, June 29-July 3, 1952.

*As explained elsewhere in the text renumbering of conventions occurred at this time to include the meeting in 1853.

Proceedings of the 42nd Meeting of the American Association of Instructors of the Blind, Batavia, June 27 - July 1, 1954.

Proceedings of the 43rd Meeting of the American Association of Instructors of the Blind, Worthington, June 24-28, 1956.

Proceedings of the 44th Meeting of the American Association of Instructors of the Blind, Vancouver, June 22-26, 1958.

Proceedings of the 45th Meeting of the American Association of Instructors of the Blind, Donelson, June 26-30, 1960.

Proceedings of the 46th Meeting of the American Association of Instructors of the Blind, Miami Beach, June 28 - July 2, 1962.

Proceedings of the 47th Meeting of the American Association of Instructors of the Blind, Watertown, June 21-25, 1964.

48th Biennial Conference, June 26-30, 1966, American Association of Instructors of the Blind (Salt Lake City).

49th Biennial Conference, June 1968, Association for Education of the Visually Handicapped (Toronto, Canada).

Selected Papers - Association for Education of the Visually Handicapped - Fiftieth Biennial Conference-June - July, 1970 (New Orleans).

. . . AND THE BLIND MAN ON THE CORNER WHO SANG THE BEALE STREET BLUES[1]

by George G. Mallinson, Ph.D., and Jacqueline V. Mallinson

Although he sang on the corner for money he was no beggar. He sang with his heart and soul, giving forth with an artistry that was seldom recognized. His tales of despair, joy, love, women and hate were lost forever in the air, since there was no one to record what he sang. Those who did remember him forgot much that was important, and often fashioned much of what they did remember into myths. But then, the world is full of myths, many of them spawned from unknown origins deep in the past. Others have been invented and fostered with intent. Some are emerging at the present time and in the decades ahead will gain the respect endowed by antiquity. Among these myths, two that are closely interrelated will be hopefully destroyed here. One concerns the birth of the blues, ragtime and jazz, the only areas of music that can truly be considered Americana. The other deals with the blind man's role in these areas.

There are many different views of what the blues, ragtime and jazz are, and one may find many different definitions of them. Here, however, there are two aims. The first is to delve into the origins of these areas of music, not to debate viewpoints and definitions. The second is to show that blind men were among the giants who helped spawn this part of Americana.

The "experts" themselves disagree sharply concerning the origin of jazz. For example, Keepnews and Grauer[2] say:

> Storyville was its spawning ground, the streets of New Orleans its first home. There can be no precise date for the birth of jazz, for it came into being by a slow process of accumulation – the gradual fusion of many different strains and the impact of many different personalities. But by the turn of the century, and largely in the city of New Orleans, the music now called jazz (but which was not then known by that name, or by any single name) was taking recognizable shape.

Rose and Souchon[3] agree that New Orleans may have been the home of jazz, but they sharply contradict the view that Storyville was the birthplace. Their viewpoints are these:

> To a limited and lesser extent Storyville, the legal red-light district that operated from 1898 to 1917, served as a forge in which some of the pure gold of jazz was smelted. It, too, has been celebrated in song. "Mahogany Hall Stomp" recalls its most famous brothel, and "Basin Street Blues" and "Franklin Street Blues" bring to mind its most hectic streets.
>
> The role played by Storyville in jazz development has been much exaggerated and deliberately misrepresented by self-elected "historians." TV producers, even on allegedly

---

[1] From *Beale Street Blues.* Copyright by Pace and Handy Music Co., Inc., 46th Street and Broadway, New York, New York, 1916.

[2] Orrin Keepnews and Bill Grauer, Jr., *A Pictorial History of Jazz: New Edition* (New York, 1966), p. 3.

[3] Al Rose and Edmond Souchon, *New Orleans Jazz – A Family Album* (Baton Rouge, 1967), p. 200.

> educational channels, reviewers in magazines and the motion picture screen, along with other media, have seen fit to perpetuate the myth that jazz was a product of the red-light district. This is not only untrue, but offensive and insulting to the vast majority of New Orleans jazzmen, including some of its brightest stars, who not only never played in Storyville, but, indeed never even saw it. The district never employed more than two score musicians on any given night. That includes Mardi Gras! By the time Storyville came into existence there were hundreds of musicians who had already been playing jazz music for more than a decade.

Probably, no one will ever resolve or compromise these viewpoints. The reasons are legion. Perhaps the most important is that romanticists found it convenient and, in many cases, profitable, to identify jazz with the flamboyant glamour of Storyville and other parts of the French quarter of New Orleans, ignoring some of the more mundane sources. Feather's[4] writings suggest another reason:

> Since there was hardly any recording of jazz until the 1920's and since many of those who were a part of its earliest years have died or are unable to offer anything more than confused and contradictory stories, it is highly unlikely that the real story of the crystallization of jazz will ever be pieced together.

The authors have had many discussions and communications with Richard B. Allen, Curator, Archive of New Orleans Jazz, Tulane University Library, New Orleans, Louisiana. They have gained much from the personal expertise of Allen, and in addition, have been referred to many sources of information. The story seems to be as follows:

1. Jazz was *not* born in Storyville, and although it found a home in New Orleans, it flourished almost simultaneously in many regions of the United States. Among the more important areas were the cotton-growing regions of Texas and Oklahoma, the Piedmont regions of South Carolina and Georgia, the riverboat areas around Memphis, and in Missouri, especially around Sedalia. The jazz musicians plied their trade in many arenas, including traveling tent shows, medicine shows and carnivals, vaudeville in theatres, religious revival meetings, fish fries and country dances, as well as playing for money on street corners.
2. Jazz was *not* racial in origin as many erroneously believe, although the blacks were among its more important contributors. The theory that jazz had its roots in tribal rhythms from Africa is difficult to defend. One can more defensibly show that jazz and the blues developed from the sociological and economic conditions of the poverty-ridden regions throughout the South after the War between the States and through the turn of the century.
3. Blues and ragtime preceded jazz. No one knows exactly when blues originated, but it certainly had established its identity prior to the turn of the century. The first published ragtime number appeared before 1900. The term "jazz" was not even used until about 1917, and this form of music seems to have emerged from both these earlier forms.

One of the primary characteristics of blues is that it is highly personalized. Blues singers almost always sang about themselves and their troubles. The first blues singers probably moaned a single strain, singing without accompaniment. Soon a definite pattern emerged – a three-line stanza, the first stating the problem, the second repeating it, then the third carrying it forward with a hope, a curse, or resignation.

Much of ragtime also expressed the blues theme, as illustrated by the earliest published ragtime number by Ben Harney that appeared in 1895, "You've Been a Good

---

[4] Leonard Feather, *The New Edition of the Encyclopedia of Jazz* (New York, 1962), p. 21.

Old Wagon but You've Done Broke Down." A study of the style of this number by any student of the blues reveals the traditional blues imagery and the refrain words that are the typical blues "answers."[5]

Jazz is difficult to define except in musical terms. According to Rose and Souchon[6], jazz music ". . . must be (a) improvised, (b) played in 2/4 or 4/4 time, and (c) retain a clearly definable melodic line." This, however, does not indicate the mood jazz conveys. Its relationship to the blues is clearly evident in the many jazz numbers that express decadence, sorrow, lack of hope, or a bitter view toward life. The relationship of jazz to ragtime is evident in the many numbers that express exuberance and the soaring of the spirit, both of which are characteristic of ragtime.

All this is well and good – but where in this part of the musical world does the blind man fit? Unfortunately, there are two stereotypes of the blind man's role. The first is the blind beggar, playing the violin or accordian, carrying a tin cup on the streets. The other is that of the pop artist, like Al Hibbler, Alec Templeton, Ray Charles, Stevie Wonder, and George Shearing, as well as others. The writers hasten to state that they do *not* derogate the contributions of these artists to the entertainment world. However, their contributions pale into insignificance when one examines the vast amount of literature concerning the blues, ragtime and jazz, and identifies what the blind man has done. Surprisingly, in this vast amount of literature there were few articles whose themes were oriented specifically to the blind man's contribution. Nor was any entry found in an index or table of contents that dealt with contributions other than those of individual blind men. This story of the contributors involved a page-by-page search of the literature, and the revelations were astonishing. Appendices A and B list the names of some of those who have been identified and who have made contributions to the blues, ragtime and jazz. Many pop artists and the like are not included.

The reader may be surprised at the length of the list of blind musicians whose activities are enshrined in the literature. But there are probably two main reasons for the attraction of blind persons to the blues, ragtime and jazz. The first is related to the poverty that existed in the South after the Civil War. Jobs were scarce and pay was meager, and the sighted took the few steady laboring jobs that were available. Music was at best a sporadic, itinerate type of occupation, not likely to provide more than a minimal livelihood. The blind man, unable to make a living handling the plough or hoe, frequently resorted to music; and after all, who could have been better qualified to sing the blues that reflected despair and sorrow than the sightless musician? Second, since he was unable to work as a laborer, the blind man had ample time to practice. His relative immobility, free time and sensitivity were the ingredients for making him an outstanding blues singer and instrumentalist.

These blind men were often taken into the cotton fields by the work crews. Here they sang and played to help while away the long, tedious hours for the hands working the fields. In a like manner, some went with the "riverboat roustabouts," singing and playing while cargo was loaded and unloaded. Still others joined traveling medicine shows and carnivals. The travelers were often referred to as the "rambling" musicians. Often a blind "rambler" would travel with a sighted musician or pick up a young boy to act as his eyes. It is said that Josh White, the gospel singer, acted as the "eyes" for more than thirty blind musicians in the span of about eleven years, beginning when he was nine years old. These men with their companions often played at country dances and tent shows, or they

---

[5] Rudi Blesh and Harriet Janis, *They All Played Ragtime: Revised Edition* (New York, 1966), p. 95.

[6] Rose and Souchon, p. v, (Preface).

might play on the street corner for money. Although they were referred to as "blind beggars," they were not "beggars seeking alms." They were, as stated earlier, men with dignity and talent who played their hearts out for the enjoyment of passersby who would gather to hear them, and show their appreciation by "passing the hat."

It would be impossible in a paper of this length to describe the lives of all blind jazz and blues artists who made significant contributions to musical Americana. Consequently, it was decided to relate the highlights of the lives of a few of the "greats" from this vast group. The individuals described have been selected for various reasons; some because of their unique musical contributions to the blues, ragtime or jazz; some because they represent key periods in the history of this art form; others because they represent specific geographic locations where music flourished; and, in some cases, because they were truly great men, able to surmount their lack of sight. Biographical sketches of these "benchmark" musicians appear in the following sections.

"Stalebread" Lacoume – Pioneer of Jazz

In a "white folks" cemetery in New Orleans, for indeed, segregation literally followed one "to the grave" in the Old South, there is a large headstone that bears the names of four members of the Lacoume family.[7] The third entry reads:

EMILE STALEBREAD LACOUME
Originator of Jazz Music
1885-1946

Whether the claim of "originator of jazz music" is indeed accurate, "Stalebread" is considered by many to have been the organizer of what may be considered one of the first jazz bands.

Lacoume was born in New Orleans in 1885. In 1897, when only twelve years old, he organized a group of white boys into a musical group known as the "Razzy Dazzy Spasm Band." A spasm band, a common musical activity among both white and black children of those times, as well as among groups of men in the rural areas, is one in which the musicians play on homemade instruments. The instruments might include anything from a "fiddle" made from a washtub and scrub board to a jug, or even a pocket comb. "Stalebread" played on a fiddle made from a cigar box, as well as on a homemade zither and banjo. The other members of the band included a boy named "Chinee" who played a "bull fiddle" made from a half barrel; Willie "Cajun" Bussey who played rattles made of gourds, a cowbell and an old kettle; Emile "Whisky" Benrod who mastered a slide whistle and a kazoo; and a rather anonymous member of the group known as "Warm Gravy" whose musical specialty has been lost in history. One can conjure all sorts of anecdotes concerning the relationships of the names "Stalebread" and "Warm Gravy." However, the literature fails to reveal any clues about the origins of these interesting nicknames. The jazz experts are equally uncertain.

It is said that young boys' spasm bands, like the one organized by Lacoume, would play for pennies in the street when the field hands drove the wagons loaded with cotton to Canal Street in busy New Orleans around the turn of the century.

An interesting "segregation pattern" among the children's spasm bands apparently existed in those early days. The bands composed of black children generally formed what was called the "second line" in parades and funeral marches, namely, the black children's groups followed the adult brass bands.

---

[7] *Ibid.*, p. 304.

The white groups, like the "Razzy Dazzy Spasm Band" organized by "Stalebread," were more likely to play on street corners or up and down the edges of "The District" (Storyville) and thus were more identifiable. Several sources indicate that Lacoume's group was one of the sights of New Orleans for more than a score of years, and once played for Sarah Bernhardt on one of her visits to the Crescent City.

But what of Lacoume's blindness and his later musical life? Information is, at best, sketchy. However, apparently "Stalebread" was sighted when he was a youngster. Pictures of his boys' spasm band seem to indicate that he had normal vision in these teenage years.[8,9]

The literature researched by the writers has no indication of exactly how and when Lacoume lost his sight. The most direct statement found is the one by Rose and Souchon[10] that indicates, "In early 1900's, though blind, (Lacoume) performed actively at lakefront resorts."

The "lakefront resorts" referred to were the many dance pavilions, picnic and boating areas along the shore of Lake Pontchartrain. Some of these areas include Milneburg, Old Spanish Fort, Bucktown and West End. Jazz buffs will recognize that these regions have been enshrined forever in musical titles such as "Milneburg Joys" and "West End Blues." Lacoume was obviously a versatile and talented musician, since he is said to have been an accomplished musician on the zither, guitar, piano, and banjo, as well as serving as a leader and vocalist.

Pictures of Lacoume when he was a young man playing in these famous (or infamous) resorts clearly indicate that he was blind.[11,12]

As stated earlier, the cause of his loss of sight has apparently been lost in the annals of time. One fact not lost, however, is the recognition that "Stalebread" began contributing to the unique history of jazz music as a mere boy in about 1897 and continued to be one of the "greats" well into the 1920's and 1930's. His blindness did not inhibit his greatness as a pioneer of jazz.

Blind Lemon Jefferson – The Greatest of All the Ramblers

As revealed in the previous section, "Stalebread" Lacoume was a true New Orleanian who seldom, if ever, wandered far from his native region that included Canal Street, the "Quarter," and the Lake Pontchartrain resorts. Likewise, his music reflected the "well-defined style" of New Orleans jazz.

In contrast, Blind Lemon Jefferson was a true "rambler" who sang and played the blues, much of which he wrote himself. He was born in 1897 in the cotton-growing regions of Texas, near Wortham, about eighty miles south of Dallas. This, coincidentally, is the same year in which Lacoume formed his "Razzy Dazzy Spasm Band."

As with Lacoume, the literature fails to reveal the cause of Jefferson's blindness. Although most writers simply indicate he was "blind from an early age," Oliver[13] makes the following statement:

---

[8] Paul Oliver, *The Story of the Blues* (Philadelphia, 1969), Picture, p. 49.
[9] Rose and Souchon, Picture, p. 163.
[10] *Ibid.*, p. 70.
[11] Keepnews and Grauer, Picture, p. 20.
[12] Rose and Souchon, Pictures, pp. 70, 168, 288.
[13] Oliver, p. 37.

> In Jefferson's blues there are so many references to sight that it seems likely that he was partially sighted at birth, even if he was unable to join his brothers and sisters in the fields. He must have heard them, picked a little cotton perhaps, for his voice was colored with the cries of the field-hands and the intonations of the work songs. He was still a youth when he was playing on the streets of Wortham for coin, and he was independent enough to forgo having anyone to lead him.

Thus, it appears that Jefferson was at least partially sighted in his early life, but exactly when and for what reasons he became completely blind is not known. Pictures of Blind Lemon Jefferson as a young man clearly reveal that he was blind,[14] and there are specific references to his activities of singing and playing the guitar as a "blind beggar," in the most positive sense, on the streets of Dallas around 1915-1917.

The historian Lomax[15] wrote about Jefferson,

> As he grew up . . . he realized that most occupations were closed to him, that he could exist only as a poorly paid artisan doing dull work as a beggar or a musician. . . .
>
> Residents of Wortham remembered him walking down the street, in front of stores, picking his guitar and begging for nickels and dimes. . . .
>
> About 1915 greater opportunity beckoned in Dallas and Jefferson became a fixture there, particularly in the barrelhouses and sporting establishments on Upper Elm Street.

Jefferson is one of the blind musicians whom Josh White served sometimes during the 1920's. This further attests to Blind Lemon Jefferson's mobility. Joshua White was born in South Carolina and did much of his service as the "eyes" of blind musicians in the Piedmont region. As one account[16] states:

> . . . over a period of eleven years Josh White led, he reckons, about thirty of them (blind musicians) – the most famous were Blind Lemon Jefferson, far from his Texas home, Blind Blake and Blind Joe Taggert.

So Blind Lemon Jefferson rambled far and wide, from his native Texas cotton fields, to the street corners of Dallas, to the highways and byways of South Carolina and Georgia, and ultimately to Chicago, where he died in 1929.

But that's getting ahead of the story. What of the man and his music? Without question, Blind Lemon Jefferson was one of the outstanding bluesmen of all time. It is said that his style directly influenced such greats in the musical world as Louis Armstrong, Bix Beiderbecke, Bessie Smith, Tommy Dorsey and Harry James.[17]

Volumes have been written about his musical style, but perhaps it can best be summarized in this way:[18]

> On his best recordings, and those best recorded, Blind Lemon's voice is clear, and the notes of his guitar have a pristine quality. Deceptively simple though some of his discs may appear on first hearing, he had a remarkable gift of phrasing and the technical accomplishment to give the fullest expression to his ideas. Though he was a street singer, he did not have to shout; he had a way of pitching his voice high, of calling out his words so

---

[14] *Ibid.*, Picture, p. 38.

[15] "One Kind Favor I Ask of You . . . ," *Blues Unlimited* (May 1969), p. 9. Reprint of an article by Jerry Lockett that appeared in the "Groesfeld Journal," October 26, 1967, and which may have appeared originally in an issue of the *Houston Post.*

[16] Oliver, p. 129.

[17] Arthur Hill, "At Last, Blind Lemon's Grave is Kept Clean," *Downbeat*, XXXIV (November 30, 1967), 14.

[18] Derrick Stewart-Baxter, "Blues on Record," *Jazz Journal*, XV (April 1962), 25. Citing Paul Oliver, *Jazz Review* (August 1959).

that they could be heard at a considerable distance. At times he would declaim his blues with an emphasis that brooked no denial, but at other times his voice had sad, tragic tones that nonetheless never descended to self-pity.

There is really nothing much one can say about Blind Lemon Jefferson that has not been said many times before. This huge man with a mighty voice made a great impact on the blues singers of his time and those that have followed since.

Ironically, Jefferson died alone and unrecognized. His frozen body was found on a snow-swept street in Chicago during the winter of 1929. He had apparently died of a heart attack. His body was returned to Wortham, Texas, where it was buried in an unmarked, untended grave. Almost thirty-eight years after his death, a few men who appreciated his musical genius were finally able to arrange for the erection of a state historical market at his grave site. On the day of the dedication of the marker, the persons in attendance listened to a recording that Blind Lemon Jefferson had made during the height of his career. The song they heard contains the mournful phrase, "One kind favor . . . please see that my grave is kept clean." Thus, almost four decades after his pauper's death, Jefferson's grave bears a marker that praises him as "One of America's Outstanding Original Musicians." The rambler had finally come home.

Blind Boone — A Musical Genius and Ragtimer

Like Blind Lemon Jefferson, John William Boone lay in an unmarked, untended grave for many years after his death. Finally, in 1960, more than thirty years after his death, he, like Jefferson, was accorded the recognition that was long overdue. A marker was erected at his grave in Columbia, Missouri, a music scholarship commemorating him was established at the University of Missouri, and a low-cost housing development was named in his honor.

But who was this man and what had he accomplished during his lifetime? Boone was born in May 1864, in an army camp near Miami, Missouri, where his father was a bugler and his mother was a cook. His mother, Rachael Boone, was a former slave of the descendents of Daniel Boone. The baby lost his eyesight at the age of only six months when he suffered a near-fatal attack of "brain fever." The illness infected his eyes and they had to be removed. Henceforth, he was known as "Blind Willie" or "Blind Boone."

As with many musicians from poor socioeconomic backgrounds, Blind Boone first revealed his musical talent when he was only a small child. He would make up songs and accompany himself by playing intricate rhythms on an old pan lid. When he was still a small boy, his mother worked as a laundress in the home of a wealthy family in Warrensburg, Missouri. He once visited the home and experienced the thrill of touching a piano for the first time. In later life, he reminisced about the vibrations he felt in his fingers and arms when he played a chord on the piano, proclaiming that the incident was the most important experience in his life.

Like Lacoume and Jefferson, as Boone grew to be a young man he played for money on the streets of his home town, his instrument a harmonica. Like Lacoume, he organized his own street urchins' band.

His musical genius came to the attention of a Missouri senator who arranged to have him placed in the St. Louis School for the Blind when he was about nine years old. Here his true musical genius became recognized. Another student in the School for the Blind who was a pianist soon found that Boone could repeat extremely difficult compositions on the piano after hearing them only once. The superintendent of the School for the

Blind gave Boone the opportunity to develop his talent and often had Boone play for guests in his home.

At the end of a year, a new superintendent was appointed to the School for the Blind, and Boone's musical training came to a quick halt. The new man segregated the students racially and Boone, a black, was put to work making brooms. He became depressed and unhappy with this turn of events and so he ran away from the school. He then wandered about the streets of St. Louis earning a living by playing his harmonica in bars and sporting houses. At one of these establishments he met a railroad conductor who was so impressed by Boone's musical ability that he allowed Blind Boone to ride free back to his native Warrensburg. For a time he was happy and content gathering a group of musicians that performed for local dances, picnics and fairs.

Shortly thereafter, Blind Boone's experience resembled those evidenced in an oldtime melodrama. After regaining happiness in Warrensburg, he became acquainted with a traveling gambler who persuaded him to run away from home and make his fortune. True to character, this con artist beat the boy, hid him from his parents by dressing him in girls' clothing, and gambled away the money earned from Boone's musical accomplishments. On one occasion the gambler lost Boone in a poker game and then stole him back, once more escaping a few days ahead of Boone's stepfather, who was trying to rescue the boy. Finally, Blind Boone's stepfather overtook the gambler and Boone, and the happy pair returned once again to Warrensburg. From this time on, Boone's fame as a musician grew rapidly. He organized a trio that played ragtime music for the amusement (and for the tips) of passengers on trains. He also was booked for a number of one-night stands as an outstanding pianist in various opera houses throughout the country.

It was during this period that Blind Boone had his famous encounter with another blind musical genius, Blind Tom. One source[19] describes the encounter as follows:

> Just after New Year's, Blind Tom, another noted Negro pianist, stopped in Columbia at the Hayden Opera House for a one-night stand. At the end of the program, Blind Tom's manager challenged the audience to produce any pianist who might outplay Tom. John Lange led the protesting fifteen-year-old Boone on stage. Boone played, and Tom repeated his performance. Then Tom played a difficult number, and Boone repeated Tom's performance without missing a single note. The people in the audience went wild with excitement.
>
> "Give him the chance," they shouted, "and Boone can be as great as Tom!"
>
> Boone *was* given that chance, and soon far excelled Tom, for Tom was a musical freak, subnormal in intelligence, while Boone possessed true musical sensitivity and a fantastic memory rarely equaled in the history of the world.

For almost the next half century Boone traveled across the United States and on several occasions to Europe, putting on piano concerts that drew praise from distinguished musicians, royalty and music lovers throughout the world. His versatility is reflected in the following description.[20]

> Boone played Liszt, Chopin and Beethoven in the first half of a concert, saying, "You've got to hit that music critic right between the eyes." Then, following intermission, he said, "Now I'll put the cookies on the lower shelf where everyone can reach them," and played ragtime variations on popular themes and folk tunes. He is credited with being the first performer to bring the Negro spiritual to the concert stage.

---

[19] Madge Harrah, "The Incomparable Blind Boone," *The Ragtimer* (July 1969), pp. 10-11.

[20] *Ibid.*

During this concert period, Blind Boone usually traveled on tour for about nine months of the year, but would return to Columbia, Missouri, to rest during the summer months. He was fortunate to have an honest and appreciative manager, John Lange, who had been the superintendent of the Negro Baptist Church in Columbia. During the more than forty years of concert tours both Lange and Boone became wealthy men. Shortly after World War I, however, Mr. Lange died and Boone was victimized by a number of dishonest and incompetent managers who robbed him of most of his wealth. About 1922, he was fortunate enough to come in contact with Wayne B. Allen, a music publisher from Columbia, Missouri. Allen rescued Boone from the clutches of the crooks and again put him on the concert tour circuit.

Blind Boone was still playing his heart out when he died in 1927. At the time of his death, he was doing over three hundred concerts a year, but he still had not made enough money to have the grand funeral he so richly deserved. As indicated earlier, for over three decades he was buried in a grave without so much as a simple marker or gravestone. Some thirty-four years later, in 1960, a Missouri state senator and the Secretary of the Chamber of Commerce of Columbia, Missouri, organized a committee to provide a marker and establish the scholarship described at the beginning of this section. Thus, posthumously, Boone's musical genius was rewarded.

Blind Willie McTell — the Musician Who Overcame Darkness

Willie McTell is a "benchmark" musician for two reasons. First, he is known to have been blind from birth but through his zest for education became extremely mobile. Second, he represents a "second generation" of blues singers that emerged after the "Great Depression" of the 1930's.

McTell was born in Thomson, Georgia, near Atlanta, in 1898. Soon after his birth, the family moved to Statesboro, near the coastal regions of the state. Like many musicians who were blind from birth, when only a child he turned to music. It is said that from childhood he was determined to make his living through music. He learned to play a guitar as a youngster, and while still an adolescent he mastered the difficult large twelve-string guitar. This instrument provided a full, resonant sound that typifies his many recordings.

Blind Willie McTell was an intelligent young man. When twenty-four years old, he went to the State School for the Blind in Macon, Georgia. Later he studied at a private school for the blind in New York state. He then went to Michigan to learn to read braille. His intelligence and resourcefulness made it possible for him to travel throughout the United States. He is quoted as describing himself as having traveled from Maine to Mobile Bay and from Florida to Arkansas in the course of many years working with carnivals and traveling medicine shows. Apparently, this nomadic existence was revealed in his accent, or lack thereof, when he sang. Oliver[21] reports,

> When he sang, it was with a nasal inflection and his oddly-turned vowels seemed to reflect the broad landscape over which he had worked. Sometimes his voice had the hard quality of the white mountain singers and he displayed few of the parochialisms of the thicker-voiced bluesmen. Many of his songs were ballads and medicine show pieces but he was a memorable singer of the blues.

[21] Oliver, p. 126.

Although many of the earlier generation of bluesmen had died prior to or during the Depression, as the South began to emerge from this economic and social disaster, McTell seemed to come through with boundless energy. In the words of Oliver,[22]

> In his complete mastery over an innate disability, McTell was independent and assured. He played for nickels on the streets but he was proud of being a "professional" musician and was no beggar.

McTell traveled extensively with other blind musicians, among them Blind Willie Johnson, a religious singer from Texas. He also traveled with a number of sighted musicians who served as his "eyes." One of these, his wife Kate McTell, also recorded with Blind Willie under the pseudonym of "Ruby Glaze." The story is that their voices were ideally matched for recording. Another sighted musical companion was Curley Weaver. The two traveled for several years throughout Tennessee and the Carolinas, playing at picnics, barbecues and tent shows.

The tireless, enduring nature of this man and his music is evidenced by the fact that he was active well into the 1950's. Contemporary blacks who sing "We Shall Overcome" should have known Blind Willie McTell, one who truly "overcame."

Art Tatum – the Man Who Helped Jazz Turn Modern

Probably no "time line" of great blind musicians would be complete without recognizing those among the group of modern jazz musicians who reigned during the heyday of the incomparable "Swing Era," from approximately 1935 through 1941. Without doubt one of the greatest of the greats was Art Tatum. Tatum was born in Toledo, Ohio, in December 1909. As with other men cited in this paper, he learned music at an early age. He is said to have mastered the violin by the age of thirteen. He made his professional debut as a pianist in 1928 in Speed Webb's band, later playing with McKinney's Cotton Pickers.[23]

Although he objected to being called a "blind pianist," Tatum was blind in one eye, and had only limited sight in the other. Thus, he learned everything he played by ear. He was a fantastically versatile and inventive musician and influenced the musical styles of many of the pianists and other instrumentalists of the "Golden Age of Swing." Teddy Wilson, the famous pianist with Benny Goodman, "The King of Swing," lists Tatum as one of the great influences in his musical career. This is reflected in the following statement by Daniels.[24]

> Like all Swing Era musicians, he (Wilson) mentions Tatum with awe: "I never heard anyone who had his command of the instrument in such variety. Tatum could play octaves and thirds and single notes and tenths and chords in both hands and the stride and just everything. Tatum is the only, I think, true phenomenon that we have ever had in jazz. The unexplainable. It's like a golfer going out and hitting a hole-in-one any time he got ready – that's the way Tatum played the piano."

While everyone agrees to Tatum's greatness, he apparently cannot be described to everyone's satisfaction. To pianists he was "The Master," to jazz buffs he was "a great stylist," and to classicists he was "a wonder." It is said that Rachmaninoff and Horowitz listened in awe to his thunderous chords. Yet Tatum himself resented the usual

---

[22] *Ibid.*

[23] Hugues Panassié and Madeleine Gautier, *Guide to Jazz*, trans. by Desmond Flower; ed. by A. A. Gurwitch (Boston, 1956), p. 265.

[24] George G. Daniels, ed., *The Swing Era Curtain Call* (New York, 1972), p. 40.

description of him as a "blind jazzman." Since he had limited vision in one eye, he refused to consider himself blind; furthermore, he preferred to be called a *musician*, rather than a *jazzman*.

His spirit of independence is shown by the fact that he was reserved and dignified and always completely his own man. He played only when he felt like playing – sometimes in a nightclub, at other times on a concert stage or in a recording studio. For a time he led the Art Tatum Trio, but still preferred playing alone.

Tatum was strongly influenced in developing his own style by the great Fats Waller. Waller's great love and understanding of melody, and most of all, his infectious zest for life and sense of humor had great impact on the music of Tatum and other pianists of the Swing Era.

Like Waller, Tatum was essentially an "after hours musician" who was at his musical best when few people were around to appreciate him. Daniels[25] probably described this characteristic better than anyone else.

> Yet only a few score jazzmen ever heard Tatum at his best – the Tatum sometimes described as basically an "after hours" pianist who, in the select company of his peers, could drink like Waller and play all night – or forever. He is said to have challenged a drummer who had worn out other pianists. After five hours of steady playing, each using one hand only, the drummer quit. It is also said that against another pianist he once played twenty-four hours straight. From such endless legends emerge at least two solid facts: nobody ever "cut" Tatum and nobody has ever equaled his complete command of the keyboard.

Thus, the low-vision musician, who refused to be called "blind," is enshrined in history as one of the true greats who turned the corner from jazz to swing, and helped bring this American Music into the contemporary period.

Art Tatum died on November 4, 1956.

W. C. Handy – the Man Who Popularized the Blues

Every journey, no matter how long or short in time or distance, should eventually bring the traveler "back home." And so it is with this journey through the history of the blues, ragtime and jazz. What better way to end this trip than to return to the man who wrote the immortal words that are used as the title of this article?

Of all the musicians described herein, probably none is more famous than William Christopher Handy. W. C. Handy was born in Florence, Alabama, on November 16, 1873. His father was a minister in the Afro-Methodist Church in Florence and he was quite opposed to his son being a musician. So, W. C. had to leave home in order to play what was in his soul. He was a well-educated man, having attended the Agricultural and Mechanical College near Huntsville, Alabama. However, music was very much a part of his life, and in his desire to enter the field, he met many disappointments. In recalling his early days, Mr. Handy is quoted as saying,[26]

> I went up to the St. Looie Fair with a little band, but I was disappointed. I got some work in a switch-yard and got cheated out of my two weeks' pay. I slept on the

---

[25] *Ibid.*, p. 41.

[26] Leah Bodine Drake, "St. Louis Blues: The Mainstream that Has, in All Its Glory and Its Freshness, Helped Change the Course of Virtually All of the Arts Here." Reprinted from the Henderson, Kentucky *Gleaner and Journal*, October 1953, in *The Handy News*, VI, 4.

cobblestones of St. Looie, and in a horse-stall at the race-track. Didn't have but one dime in my pocket. Nowhere to go, nowhere to sleep, nobody to care. Do you wonder that I hated to see that evenin' sun go down?

The interview during which the above quotation was recorded was made in Henderson, Kentucky, where Handy had spent much of his early life. He recalled that he first arrived in Henderson when he was twenty years old to play a one-day engagement as a trumpet man in a band playing for a big barbecue at nearby Corydon. He got a job as a janitor at a music hall, and stayed not so much for the pay he received, but because a fine German Singing Society used the hall and he was much impressed by their leader. He cites Henderson as the beginning of his musical career. It was here that he married his first wife and from here that he traveled all over the country with minstrel shows. Although his first blues song, "Yogo Blues," was a miss, the second, and perhaps most famous, "St. Louis Blues," was a hit. It was the royalties from this musical number that enabled him to go into the music publishing business in New York. He was the first black to go into business in Tin Pan Alley.

An interesting insight into Handy's musical life is given by Oliver.[27] He relates:

"One night at Tutwiler, as I nodded in the railroad station while waiting for a train that had been delayed nine hours, life suddenly took me by the shoulder and wakened me with a start." The event which, quite literally, altered the life of William Christopher Handy and also, to a considerable degree, the course of the blues, was the playing and singing of a ragged, lean Negro guitarist. "As he played, he pressed a knife on the strings of the guitar in a manner popularized by Hawaiian guitarists who used steel bars. The effect was unforgettable. His song, too, struck me instantly.

'Goin' where the Southern cross the Dog.'

[The "Dog" refers to the Yazoo-Delta Railroad on the Illinois Central Line – the "Yellow-Dog."]

The singer repeated the line three times, accompanying himself on the guitar with the weirdest music I had ever heard." Tutwiler, Mississippi, has scarcely changed since that day in 1903.

It's one of the earliest dateable references to a specific blues and it is important because of the evident folk character of the singer, the location, the idiom – which W. C. Handy later used in his *Yellow Dog Blues* – and the technique of playing the guitar.

Many books have related the details of the life of W. C. Handy and there is little need at this point to provide further detailed biographical information. It should be noted, however, that W. C. Handy lost his eyesight after World War I, partially regained it, only to become completely blind again by 1943. With the loss of sight he seemed to develop the ability to reminisce vividly and could hold a large crowd enthralled for hours by recalling the development of his particular variety of blues. He was often quoted as saying, "I see though my eyes are closed. . . ." And, perhaps it was this unique type of insight and recall that enabled him to make all men familiar with the blues, and thus entitle him to use his famous nickname of "Father of the Blues." William Christopher Handy died in New York City on March 28, 1958.

His everlasting contribution is described by Kay[28] as follows:

As for Handy's most important contribution to American music, it is generally conceded that this outstanding Negro was responsible for the ultimate universal acceptance of a form of folk music, Negro blues, into American popular music.

---

[27]Oliver, p. 26.

[28]George W. Kay, "William Christopher Handy, Father of the Blues – a History of Published Blues," *Jazz Journal*, XXIV (March 1971), 10.

Epilogue

Nothing will be gained here by including a summary of the greatest forms of musical Americana – blues, ragtime and jazz; or the men who made it live. The writers only hope that from this brief paper, the reader will gain a deeper understanding of the development of the music that is truly Americana, and the profound roles played by the countless blind musicians who helped spawn and nourish it. To all these sightless, but sensitive and gifted artists, this article is humbly dedicated.

BIBLIOGRAPHY

"At Last, Blind Lemon's Grave is Kept Clean." *Downbeat*, XXXIV (November 30, 1967), 14.

Blesh, Rudi, and Harriet Janis. *They All Played Ragtime: Revised Edition.* New York: Oak Publications, 1966. Pp. xxiv + 347 + ix.

Daniels, George G., editor. *The Swing Era Curtain Call.* New York: Time-Life Records, 1972, Pp. 64.

Drake, Leah Bodine. "St. Louis Blues: The Mainstream That Has, In All Its Glory and Its Freshness, Helped Change The Course of Virtually All of The Arts," Reprint of an article appearing in the Henderson, Kentucky *Gleaner and Journal,* October 1953, in *The Handy News,* VI ("Published Every Now and Then by the Music House of Handy."), 4-5.

Feather, Leonard. *The New Edition of the Encyclopedia of Jazz.* New York: Bonanza Books, 1962. Pp. 527.

Godrich, John, and Robert M. W. Dixon, compilers. *Blues and Gospel Records, 1902-1942.* London: Storyville Publications and Co., 1969. Pp. 912.

Harrah, Madge. "The Incomparable Blind Boone." *The Ragtimer* (July 1969), pp. 8-12.

"Hillbilly Issue." *Journal of American Folklore,* LXXVIII (July-September 1965), 195-286.

Kay, George W. "William Christopher Handy, Father of the Blues – a History of Published Blues." *Jazz Journal,* XXIV (March 1971), 10-12.

Keepnews, Orrin, and Bill Grauer, Jr. *A Pictorial History of Jazz: New Edition.* New York: Crown Publishers, Inc., 1966. Pp. 297.

Merriam, Alan P., with the assistance of Robert J. Benford. *A Bibliography of Jazz.* Philadelphia: The American Folklore Society, 1954. Pp. xiii + 145.

Oliver, Paul. *The Story of the Blues.* Philadelphia: Chilton Book Company, 1969. Pp. 176.

"One Kind Favor I Ask of You . . ." *Blues Unlimited* (May 1969), pp. 9-10. Reprint of an article by Jerry Lockett that appeared in the "Groesfeld Journal," October 26, 1967, and which may have appeared originally in an issue of the *Houston Post.*

Panassié, Hugues, and Madeleine Gautier. *Guide to Jazz.* Translated by Desmond Flower; edited by A. A. Gurwitch. Boston: Houghton Mifflin, Co., 1956. Pp. vii + 312.

Reisner, Robert George, compiler. *The Literature of Jazz, A Selective Bibliography.* New York: The New York Public Library, 1959. Pp. 63.

Rose, Al, and Edmond Souchon. *New Orleans Jazz – A Family Album.* Baton Rouge: Louisiana State Unitersity Press, 1967. Pp. viii + 304.

Smith, Charles Edward, with Frederic Ramsey, Jr., Charles Payne Rogers and William Russell. *The Jazz Record Book.* New York: Smith and Durrell, Inc., 1946. Pp. xiv + 515.

Stewart-Baxter, Derrick. "Blues Galore." *Jazz Journal,* IX (February 1956), 7.

Stewart-Baxter, Derrick. "Blues on Record." *Jazz Journal,* XV (April 1962), 25-6.

Tudor, Dean. "A Discography of The Real Blues." *Library Journal,* XCVII (February 15, 1972), 633-49.

APPENDIX A

BACKGROUND INFORMATION ON BLIND JAZZ MUSICIANS*

Popular Name	Real Name	Date and Place of Birth	Date and Place of Death	Cause of Blindness	Miscellaneous Information
Blind Archie Jackson					Josh White acted as his "eyes" at one time.
Blind Arvella Gray				Shot in face.	
Blind Arthur (Also known as Blind Blake; Blind Arthur Blake)	Arthur Phelps	1885, probably in Jacksonville, Florida	1930		Coronet player who recorded in Chicago in 1926-27 as "Blind Blake and his Kazoo Band." Also recorded in Grafton, Wisconsin, in 1929, and for Paramount Records between 1920-30. A good singer; great guitarist with extraordinary drive and a rich instrumental style. Influenced many guitarists, notable "Big Bill Broonzy."
Blind Bobby Baker	Bobbie Leecon				Recorded on the Pathé/Perfect Label.
Blind Boone (Also known as Blind Willie)	John William Boone	1864, Miami, Missouri	1927	Eyes removed when he was six months old because they had become infected from near-fatal "brain fever."	See detailed account of his life in body of paper.
Blind Boy Fuller	Fulton Aller ("Fuller" is a contraction)	1903, Milledgeville, Aiken County, South Carolina	1940, Chicago, Illinois	Blinded by having lye thrown in his face or placed in washwater by woman with whom he lived.	Played guitar – learned much of his technique from Blind Gary Davis.

*Note: Because of incomplete records, and frequent pseudonyms used by musicians, this table is sketchy. However, all available information has been included; no claim is made for its complete accuracy.

Popular Name	Real Name	Date and Place of Birth	Date and Place of Death	Cause of Blindness	Miscellaneous Information
Blind Brewer					
Blind Boy Johnson					
Blind Charlie Hayes		1885, New Orleans, Louisiana	1949, New Orleans, Louisiana		Played with Bunk Johnson and Louis Dumaine on guitar, banjo and violin; also served as vocalist frequently.
Blind Columbus Williams					Josh White acted as his "eyes" at one time.
Blind Freddie Small		1898, New Orleans, Louisiana			Played clarinet and harmonica. Worked in bars with a trio in the 1920's and later with Don's Liberty Bell Orchestra.
Blind Gary Davis	Gary Davis	1896, Lawrence County, South Carolina		Would not talk about cause; bitter about blindness, which occurred sometime after 1915.	After becoming blind, turned to religion and became a minister in 1933. He was a vocalist who played his own accompaniment on the guitar. He was a street evangelist who applied the blues technique to gospel music. Recorded in New York around 1935.
Blind George Martin					Recorded in 1926.
Blind Gilbert	Gilbert Meistier	1900, New Orleans, Louisiana	Last heard from in Los Angeles, California		
Blind Homer					Piano player with "Blind Jug," known to have played in saw-mill towns in the Mississippi-Louisiana areas.

Popular Name	Real Name	Date and Place of Birth	Date and Place of Death	Cause of Blindness	Miscellaneous Information
Blind James Beck					Known to have recorded in Chicago about 1927.
Blind James Brewer					
Blind James Campbell		1928, Pennsylvania			Played drums; was a self-taught musician.
Blind James Phillips		1914, Birmingham, Alabama			Was a vocalist and accompanied himself with a guitar.
Blind Joe Taggert					Josh White served as a guide for him.
Blind Joe (may be the same as Blind Joe Taggert)					Was a vocalist who accompanied himself with a guitar. He recorded in the State Penitentiary in Raleigh, North Carolina, in 1934.
Blind John Davis		December 7, 1913, in Chicago, Illinois (?), 1913, in Hattiesburg, Mississippi (?) (Sources of information give conflicting reports)		Blinded at the age of ten in an accident.	Best known as a piano accompanist for blues singers, among the more famous of whom were "Big Bill Broonzy" and "Sonny Boy Williamson." Studied classical music through the use of braille.
Blind John Henry Walker					Josh White served as his guide at one time.
Blind Jug					Played piano with Blind Homer in sawmill towns in the Mississippi and Louisiana regions.

Popular Name	Real Name	Date and Place of Birth	Date and Place of Death	Cause of Blindness	Miscellaneous Information
Blind Lemon Jefferson		1897, near Wortham, Texas	1929, Chicago, Illinois. Found frozen in the snow, having died of an apparent heart attack.	Blind "from an early age."	See details of his life and work in the body of this paper. It is believed, also, that Blind Lemon Jefferson may have recorded religious music and gospel hymns under the pseudonym of "Deacon L. J. Bates."
Blind Leroy Garnett					
Blind Mack					A vocalist who recorded in Jackson, Mississippi, in 1935.
Blind Mamie Forehand					One of the few blind women recorded in the literature. Believed to have made some recordings on the Victor label about 1927.
Blind Nesbit					Recorded for Columbia about 1930.
Blind Norris	Norris McHenry				His recordings bear a marked resemblance to Billiken Johnson, a vocalist who recorded about 1937.
Blind Percy and his Blind Band	May be the same as "Six Cylinder Smith"				Recorded in Chicago around 1927.
Blind Pete					Recorded in Little Rock, Arkansas, about 1934.

Popular Name	Real Name	Date and Place of Birth	Date and Place of Death	Cause of Blindness	Miscellaneous Information
Blind Willie Reynolds					
Blind Pilgrim	Pseudonym for "Blind Willie Johnson"; used when he made records for the Anchor label.				
Blind Richard Yates					Recorded in New York in 1927.
Blind Roger Hayes					
Blind Roosevelt Graves					
Blind Sammie	Pseudonym for Blind Willie McTell when he recorded on the Columbia label; he also recorded as "Georgia Bill" on the O.K. label.				Known for his great imitations of of the human voice, made by playing his guitar in a special manner.
Blind Snooks Eaglin	Fird Eaglin; also known as Snooks Eaglin	1936, New Orleans, Louisiana		Lost his eyesight as the result of a brain tumor at the age of two years.	Still lives and works in the New Orleans area.
Blind Texas Marlin					Recorded on the Columbia label; recordings made in Oklahoma around 1928.
Blind Tom					A musical freak who could play any number, note for note, on the piano after hearing it only once; however, he was sub-normal in intelligence.

Popular Name	Real Name	Date and Place of Birth	Date and Place of Death	Cause of Blindness	Miscellaneous Information
Blind Willie Harris		Probably about 1925			Played guitar; attended the Columbia School of Music.
Blind Willie Jackson					
Blind Willie Johnson		1902, Marlin, Texas	1949	Blinded in early childhood.	A religious street singer; often worked with Blind Willie McTell.
Blind Willie McTell (also known as Blind Willie)	Willie McTell	1898, Thomson, Georgia		Blind from birth.	See details of his life and work in the body of this paper. An intelligent man who had extensive training at institutions for the blind. He was active well into the 1950's.

APPENDIX B

BACKGROUND INFORMATION ON BLIND JAZZ MUSICIANS*

Name	Date and Place of Birth	Date and Place of Death	Cause of Blindness	Miscellaneous Information
Arnold, James "Man"				Blind singer who "begged" in towns of the Piedmont region of South Carolina. He became so wealthy from begging that he at one time owned three race horses. For a time, Josh White served as his guide.
Biena, Abbe	LaCrosse, Wisconsin			Blind piano player who was a soloist in a number of jazz "joints" in Chicago about 1930-40. His wife would give him chords from sheet music, and from this he was able to improvise and play by ear.
Brock, Herbie			Blind from birth.	Attended the New York School for the Blind at Batavia, New York.
Brown, Reverend Pearly				Blind beggar who sings hillbilly songs. Still currently active.
Charles, Ray	September 23, 1932, Albany, Georgia		Blinded in an accident at the age of six years.	Contemporary vocalist, well-known for records and television appearances.
Clem, Edward	St. Joseph, Louisiana, prior to Civil War	Early 1920's in New Orleans, Louisiana	A one-eyed musician who had only partial sight in his good eye.	
Darby, Theodore Roosevelt				Blind singer from Mississippi.

*Note: Included in this list are those blind musicians whose names did *not* bear the designation "Blind . . ."

Name	Date and Place of Birth	Date and Place of Death	Cause of Blindness	Miscellaneous Information
Estes, John Adam ("Sleepy John Estes")	January 1904, Ripley, Tennessee		Lost sight in one eye while playing a baseball game as a young boy; vision slowly deteriorated after the accident.	
Feliciano, José				Contemporary guitarist; known for recordings.
Garde, Paul				Blind guitar player, active around 1920-25.
Handy, William C.	November 16, 1873, Florence, Alabama	March 28, 1958, New York, New York	Lost his sight after World War I, but regained it; then again began to go blind during the 1930's; was completely blind by the early 1940's.	See details of his life and work in the body of this paper. Best known as "Father of the Blues."
Hibbler, Al	August 16, 1915, Little Rock, Arkansas		Blind from birth.	Contemporary vocalist and piano player.
Hunter, Charles				
Kirk, Roland				
Lacoume, Emile ("Stalebread" Lacoume)	1885, New Orleans, Louisiana	1946, New Orleans, Louisiana	Blinded as a young man; cause unknown.	See details of his life and work in the body of this paper. Often called "The Originator of Jazz."
Mooney, Joe	1911, New Jersey			Contemporary blind singer and accordian player.

Name	Date and Place of Birth	Date and Place of Death	Cause of Blindness	Miscellaneous Information
Pierce, "De De" (Joseph Dė La Croix Pierce)	February 18, 1904, New Orleans, Louisiana		Lost his sight as a young man.	Trumpeter and vocalist; played for awhile with the Young Tuxedo Brass Band and with Abby Williams until he lost his sight. Appeared regularly at Luthjen's, a well-known night spot in New Orleans in the late 1950's. Currently heard with his wife, Billie Pierce, at Preservation Hall in New Orleans.
Puckett, George Riley	1890, Alpharetta, Georgia	July 13, 1946	Blinded at the age of three months with lead acetate solution, which was used by accident to treat an eye ailment.	Attended the Georgia State School for the Blind, in Macon, Georgia.
Shearing, George	August 13, 1919, London, England		Blind from birth.	Contemporary jazz pianist; developed his style from listening to recordings made by Fats Waller and Teddy Wilson.
Sprand, Charlie				Played with Blind Blake on Hastings Street in Detroit.
Tatum, Art	October 30, 1910, Toledo, Ohio	November 4, 1956, Los Angeles, California	Blind in one eye; partial sight in the other.	See details of his life and work in the body of this paper. Talented jazz and swing era pianist.
Templeton, Alec	July 4, 1909, Cardiff, England	March 28, 1963, Greenwich, Connecticut		Blind English piano player.

Name	Date and Place of Birth	Date and Place of Death	Cause of Blindness	Miscellaneous Information
Terry, Sonny	October 24, 1911, Durham, North Carolina		Blinded in one eye while playing a children's game at the age of eleven; a few years later, he lost his other eye when a piece of iron was thrown in his face.	Full name was Saunders Terrell; he played the harmonica and teamed with Blind Boy Fuller on recordings made in 1937.
Tristano, Lenny				A blind pianist, active in the late 1950's; known as one of the "cool school" jazz musicians.
Wonder, Stevie				Contemporary blind singer, who is a teenage favorite. Trained at the Michigan School for the Blind.
Woods, Alvin				Currently lives and plays in the New Orleans area.

CNIB Mobile Eye Care Unit. Donated by Weston Lions for use in rural areas of Newfoundland

DOCTOR'S OFFICE GOES MOBILE

By Paul C. O'Neill

A giant step in prevention of blindness and general eye care was taken recently in Canada when a doctor's office on wheels was sent into the rural roadways of Newfoundland by The Canadian National Institute for the Blind. Located in the Gulf of St. Lawrence, northeast of the Maritime provinces and the New England States, Newfoundland is an island of forests, rivers and mineral-rich rocks, with the controversial Grand Banks just offshore.

The province houses the largest pulp and paper mill in the world and operates one of the largest iron ore mines about three hundred feet beneath the waters of Conception Bay.

But in spite of its rank as a world supplier, Newfoundland's 500,000 people live in 1,200 scattered villages and towns, widely separated along the coasts. Only a half dozen certified ophthalmologists look after the people. To most of them the luxury of an eye doctor and his gleaming instruments is unknown.

Officials of The Canadian National Institute for the Blind have long been concerned for the eye health of this rural population because prevention of blindness and sight conservation are as much a part of CNIB's constitution as rehabilitation. One of the few organizations in North America to provide both streams of service, CNIB has long been a leader in the prevention field. In the early days the organization sent teams of eye specialists to examine the eyes of Eskimos in the far north. It began the Eye Bank of Canada when the practice of pledging eyes was almost unknown. CNIB has provided community clinics to remote areas for years.

The Newfoundland eye care van was the result of discussions of the situation between Joseph E. Caruk, CNIB's Divisional Director for that province, Dr. Ellis Shenken, L.R.C.P. & S., D.O.M.S., C.R.C.S.(C), and J. Alan Bull, M.D., D.P.H., of Toronto. Together they developed a plan to bring the ophthalmologist to the people in the form of a modern eye doctor's office on wheels. Shenken put the project before the Lions of Weston, Ontario, a suburb of Toronto, and the mobile eye care van was on its way.

The development of a strong and successful program required the involvement of community service groups, e.g., Lions Clubs, in organizing and advertising the services available and a high degree of coordination among CNIB blindness prevention division, ophthalmologists, opticians, optometrists, public health doctors and nurses, and general practitioners.

The Weston Lions spent $30,000 on the construction of the unit and CNIB spent $10,000 on the medical equipment. When the work was done, a lorry about the size of a large furniture hauler with a separate tilt cab stood at the curb side. The unit was self powered, heated, and air conditioned, with hot and cold running water, lighting and

sterilization facilities. Indeed, all the services usually available in an eye doctor's office were planned for and installed. Everything was included to serve the many purposes of the van, which are as follows:

1. To screen large groups and detect early eye disease in city centres.
2. To educate the public and display by physical presence the importance of regular eye care.
3. To carry out medical eye examinations.
4. To correct refractive errors, prescribe, and measure for glasses.
5. To carry out minor eye surgery.
6. To refer cases of eye disease requiring complex investigation to a hospital. To refer major surgery to the proper hospital centre.
7. To research into epidemiology of eye disease.

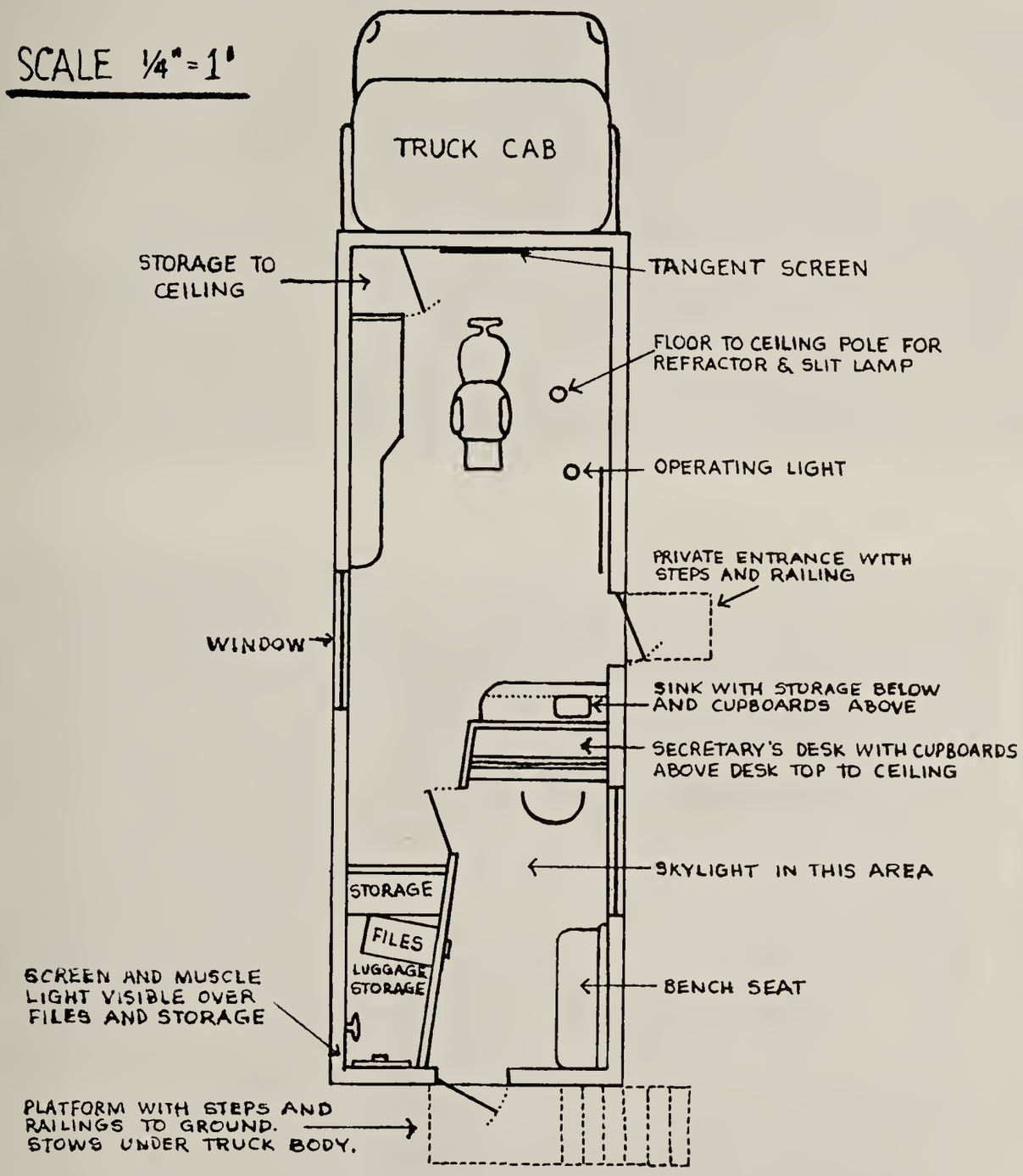
A console control panel was installed to give the doctor the same convenient instrumentation he would enjoy in his own office. The office on wheels was no rustic setup but a modern, well equipped unit from slit lamp with applanation tonometer to the "E" table scanner for preschool screening. At the back end of the van was an office with a desk and chair where the doctor and the driver-clerk could make out reports and keep the necessary records. There was even a waiting room where two or three patients could be seated. To complete the project, wall to wall carpeting covered the floor from one end of the unit to the other.

The full-time staff consisted of three persons – a qualified ophthalmologist, a nurse and a driver-clerk. Six doctors from Canada, the United States and England signed up for a month at a time. Operating expenses for the first year were drawn from a special grant of $50,000 from the Department of National Health and Welfare of the Government of Canada. The mobile centre operated from May to October of 1971. In that time the staff examined 4,557 patients and travelled 4,000 miles. Eye doctors prescribed glasses for 1,261 people and discovered 23 blind persons, many glaucoma suspects and other eye conditions. They saw unusual eye pathology which they normally would not encounter in years of regular practice. The findings made a profound impression on the eye world of Canada and CNIB officials, who now see the mobile unit as a constructive means of bringing eye care to hundreds of remote areas of Canada, thousands of miles from the nearest eye doctor.

Two more vans went into service in May 1972 in Ontario and Quebec where thousands of people live in the remote regions. The Ontario unit was funded by Physicians Services Incorporated Foundation from a grant of $75,000 to cover construction, medical equipment and the first year's operation. Two Lions Clubs, Parkdale and Weston, along with the Quebec government and CNIB, joined forces on the Quebec project.

Hopes are high for great results from the new service this summer. However, Miss Susan Henninghausen, CNIB's National Director of Prevention of Blindness, says, "The van is certainly a great advance and can be a giant step in sight conservation," but she sounds a warning note. To doctors and service clubs she emphasizes, "Remember the van

must be staffed with an ophthalmologist to provide complete medical eye examination and to do so you must have the support of your ophthalmological society. Without a commitment of staff from the society, your van may never leave the lot. But cooperation is not hard to get and so far the doctor staff has not been a problem. Together you can set up a new kind of service that will put eye health within reach of thousands, often for the first time in their lives."



CNIB Mobile Eye Care Unit Floor Plan

Interior sections of Mobile Van

COGNITIVE AND PSYCHOSOCIAL ASPECTS OF MOBILITY TRAINING

By Richard L. Welsh

Systematic methods for teaching visually handicapped people to travel independently are relatively new. Only within the past twenty-five years have the techniques been formalized and accepted by most programs which serve the blind and partially sighted. The core of these methods is the use of the long cane according to the techniques developed in the rehabilitation programs of the United States Army and the Veterans Administration after World War II. Most of what has been written to describe this aspect of the rehabilitation of visually handicapped people has emphasized the cane techniques, the training of the remaining senses, or the administrative aspects of providing orientation and mobility. Several other very important points relevant to orientation and mobility training have not been elaborated in the literature. These aspects of mobility instruction are sometimes taken for granted by mobility instructors and often not understood by those who are not mobility instructors. They include the need for mobility skills to be taught through a sequence of planned lessons of graduated difficulty, the need to teach mobility in real environments as opposed to simulated environments, the need for individualized mobility instruction to be provided through professionally trained instructors and, finally, the critical impact of mobility instruction on the client. This paper will attempt to provide a conceptual framework for understanding some of these aspects of what instruction in independent travel means for the visually handicapped individual, how it can be most effective, and what applicability it might have in rehabilitation programs for other handicapped groups. More specifically these ideas will spotlight the connection between a systematic method of mobility instruction and the self-concept of the handicapped person, his ability to solve problems and make judgments, his feeling of independence in travel, and his ability to deal with the stigmatizing effects of his disability.

The Self-Concept

There is a branch of psychological theory, whose spokesmen include individuals such as Rogers, Allport, and Murray, that posits the existence within each individual of an inner core, the self, that by its nature strives for growth and the expression of its potentialities. Maslow (1954) refers to this growth phenomenon as self-actualization, which he defines as the actualization of potentials, capacities and talents. Maslow perceives this self-actualization as proceeding through a hierarchy of needs, each of which must be satisfied before the individual can be motivated by the next higher need. The well-known hierarchy suggested by Maslow starts from the physiological needs and progresses through safety, love, esteem and, finally, self-actualization needs. This urge to grow exists in every man, although it can be denied or repressed and is not available to the individual's conscious reflection. According to Maslow, "This force is one main aspect of the 'will to health', the urge to grow, the pressure to self-actualization, the quest for

one's identity. It is this that makes psychotherapy, education, and self-improvement possible in principle."[1]

This aspect of the self is different from, but related to, the "self-concept" which is a construct suggested by certain social psychologists and cognitive theorists. This construct refers to how the individual perceives himself. Some of the key assumptions generated by cognitive theory are that (1) a person's perceived world, including his perceived self, is significantly affected by the expectations of others and by the qualities of the social environment, (2) man's perceptions of the world are affected by his values, expectations and self-image, and (3) man's behavior is governed by his perceptions of the world. Among the proponents of cognitive theory are Lewin (1935), Festinger (1957), and Heider (1958). They feel that the self-concept is the result of the individual's interaction with his environment and it in turn affects how the individual perceives his environment. Wright (1960) discusses in detail the effect of disability on the self-concept. A disability can threaten self-esteem to the extent that the individual is unable to contain the "spread effect," that is, the feeling that he is totally incapacitated even though only one aspect of his functioning is, in fact, affected. Barker, *et. al.*, (1953) have indicated that the attitudes of society toward disability influence the disabled person to feel inferior by *expecting* him to feel inferior. More recently, Scott (1969) has described how society as well as some aspects of the "Blindness System" tend to socialize the visually handicapped individual into the "role of the blind man" and negatively affect his self-concept.

The visually handicapped clients who enroll in a program to receive mobility instruction present a wide range of individual differences in regard to every variable that could be considered. However, there is usually some desire for improvement in their present state of functioning, some evidence of the "urge to grow" suggested by Maslow. Often, however, the visually handicapped client has an inaccurate perception of what he can accomplish without vision. Occasionally a client will expect too much from the rehabilitation program, but much more frequently his self-concept as a visually handicapped person will be inaccurately low compared to what he can realistically accomplish without vision. He will often lack confidence in his ability to do things for himself, especially where independent travel is concerned. If the client is congenitally blind, he may have a poor self-concept as a result of parental overprotection and a restricted environment in which he was not permitted to do anything of significance for himself. If he is adventitiously blind, his self-concept will have been formed by the attitudes toward blindness that he possessed before losing his vision and by the oversolicitous treatment he may have received from others since losing his vision. Yet those of us who teach mobility feel that our service makes a definite improvement in the individual's self-confidence, and we feel that, indeed, such an improvement is an essential element if the client is someday going to transfer his mobility skills to a new area. The client must believe in his ability to travel safely and independently. But how do we explain this improvement?

According to Maslow, growth to self-esteem and self-actualization cannot take place until safety needs are satisfied. Maslow says, "Apparently growth forward customarily takes place in little steps, and each step forward is made possible by the feeling of being safe, of operating out into the unknown from a safe home port, of daring because retreat is possible. . . . Assured safety permits higher needs and impulses to emerge and to grow towards mastery."[2]

---

[1] Abraham H. Maslow, "Some Basic Propositions of a Growth and Self-Actualization Psychology," in *Theories of Personality: Primary Sources and Research*, eds. Gardner Lindzey and Calvin Hall (New York, 1965), p. 308.

[2] Abraham H. Maslow, *Toward a Psychology of Being* (Princeton, 1962), p. 49.

Safety in a good mobility program is assured in several ways. The one-to-one relationship between the instructor and the client assures the client that he is the sole focus of attention and that the instructor will not allow him to encounter situations that he is not capable of handling. Also the fact that the instructor is professionally trained and meets the high standards of certification will contribute to the client's ability to trust him and to feel secure. In addition, the structure of lessons of graduated difficulty and increasing responsibility for the client contribute to his growth in self-confidence. At this point it will be useful to elaborate on the sequence of lesson plans since they will also be referred to in later sections of this paper.

Lesson Plan Sequence

The typical mobility program is characterized by a series of gradations in terms of the complexity of the travel conditions, the degree of independent functioning and decision-making required of the client, and the involvement of the instructor in the lesson as well as the client's dependence on the instructor. The typical program begins in a relatively safe and uncomplicated indoor environment where travel is usually less threatening. The next area of work is most often a quiet residential area possessing light amounts of pedestrian and vehicular traffic. It is also preferable that the street arrangement in the area be an orderly grid pattern that is easy for the visually handicapped client to conceptualize and to map out in his mind. The structured lessons should gradually expose the client to increased amounts of vehicular traffic and lead eventually to travel in the area of a small business district. Here the client begins to encounter more pedestrians during his travel and also encounters the necessity of becoming aware of more varied and more subtle clues as well as the need to remember the specific locations of a greater number of objectives. The next progression is to a larger business area where additional pedestrians are encountered, where traffic congestion creates unusual and sometimes unreliable traffic patterns, and where unusual intersections and street patterns are also more likely. Eventually the client may move into a large downtown area where again the congestion of pedestrians and traffic are greatly increased and the size of the area to be learned as well as the number of possible objectives are also greatly increased.

At the same time that the complexity of the travel situations is increasing, the amount of independent functioning and the number of decisions required of the client expand in an ordered sequence. First the visually handicapped client is taught to travel with a sighted guide. Although this mode to travel is usually the least threatening to the client, he is beginning to be instructed, even at this early stage of the program, that he is responsible for the effective utilization of a sighted guide. At the same time that the client is learning the auditory, tactual and kinesthetic information necessary to enable him to move safely, efficiently and gracefully with a sighted person, he is also being encouraged to develop the skills of orientation through the utilization of environmental clues. Eventually the client progresses to traveling in a controlled indoor environment independent of his guide, utilizing his hands and arms to protect himself. Next he learns to use a cane for the additional protection that he needs. More importantly during these latter two stages, the client has to learn more and more about orientation. He can no longer depend on a guide to find the objectives for him. He must develop an understanding of the indoor environment. He is given the opportunity to plan and execute routes as he travels by himself, and he is encouraged to learn how to figure out alternate routes as well. He is usually given the opportunity to try his new skills in other indoor environments so as to appreciate their general applicability in areas other than the one in which he was first instructed.

In the outdoor areas the client has to continue to integrate mobility and orientation skills as he started to do indoors. The clues are different, but the ability to

plan routes and alternate routes is a similar skill. The increased difficulty of utilizing these same skills in the outdoor areas comes from the changes in the emotional impact of traveling in a less controlled outdoor area as well as from the necessity of integrating the skills while dealing with the anxiety of such things as street crossings or blocked sidewalks. As the business areas are entered, the same skills of mobility and orientation are utilized with the additional problem of dealing with pedestrians. Getting the proper kind of help when necessary and getting rid of unwanted help demands a high level of independent functioning. These situations occur often enough as the client travels, but most mobility programs also structure in a certain number of lessons in which the client has to get help from people on the street for finding particular objectives. He is also taught to recognize those situations that he is unable to handle independently and he learns how to get help in such situations.

In the beginning of the mobility program, the instructor is very closely involved with the client's travel. He serves as the client's guide during the first stage of travel and helps the client maintain his orientation. During the initial stages of learning to use the cane the instructor gives the client frequent feedback about his performance and he stays physically close to the client in order to control the client's experiences, especially in regard to getting lost or getting bumped due to inadequate cane coverage. However, as the mobility program progresses, the instructor must gradually withdraw himself from the situation. He must allow the client to become disoriented and learn to reestablish his location. He must allow the client to get bumped occasionally in order to teach the client that he has to monitor his own cane techniques and not depend on the instructor for feedback. He has to allow the client to choose his own route from a particular starting point to an objective and to take the consequences whenever the route chosen leads him to increased difficulty. The instructor must allow the client to encounter people on the streets and learn to deal with their help, their curiosity, and sometimes their rudeness. Again, all of these objectives are accomplished gradually with the instructor having to be extremely sensitive to what each particular client needs and can tolerate at any given time.

Problem-Solving and Decision-Making

The self-confidence referred to above does not develop solely as the result of the relationship between the instructor and the client. The confidence must also be based on the acquisition of certain skills by the client and the affirmation of these skills through their use in a full range of situations. The obvious skills involved are the psychomotor skills necessary for using the cane properly and the skills related to the use of hearing, such as sound localization, sound discrimination, etc. However, as indicated above, the skills of problem-solving and decision-making are required throughout the entire range of mobility situations. These skills are more subtle, less frequently referred to in the literature, and not fully appreciated by those who view mobility training from the outside. Problem-solving and decision-making are being used here in a more general context than they are generally referred to in the psychological literature. As the visually handicapped person travels through the environment, he has to respond to different stimuli than does the sighted traveler to accomplish the same task or to arrive at the same destination. The visually handicapped person has to collect and process different types of information in order to make the proper responses to the environment. From the very earliest lessons in the sequence the client has to make judgments about what movements he should make in view of the information he receives from his guide's arm. Later he will have to make judgments about whether to attempt a particular crossing on his own when his hearing tells him that the traffic is congested in the intersection.

These reactions and judgments are not necessarily more complex or difficult than those made by sighted travelers, but in the learning process they have to be broken down into their component parts and taught in a more formalized manner. For adventitiously blind clients this is necessary because of the change in the type of stimuli being received and processed. For the congenitally blind client the problem-solving consists of a more general type of conceptual learning about the environment that must take place first, and then the client has to learn to make the decisions and judgments that have usually been made *for* him up to this point. The sequence of lesson plans in the mobility program provides the client the opportunity to make judgments and solve problems of increasing complexity and with increasingly significant consequences for his safe travel. During the early stages of the training, the instructor provides the feedback about the accuracy of the client's judgments, but the ultimate goal is for the client to monitor his own actions and to evaluate his own decisions. Cofer (1957) suggested that the stages of problem-solving are (1) recognition of the problem, (2) elaboration of alternative hypotheses, and (3) the verification or recognition of the correct solution. In mobility training, the client must first recognize when there is a problem, be aware of the alternative courses of action available to him, and decide upon which alternative is most appropriate for that situation. Again this type of skill is developed throughout the mobility sequence. The client must learn to monitor his own cane techniques and make whatever corrections are necessary. When crossing a street, the visually handicapped traveler must make judgments about his alignment with the traffic and about the proper time to begin his crossing. In addition, he must be able to know when he has veered and missed the corner that had been his objective, and he must decide how to correct his veer. Some of the most complicated problems in mobility center around the client's efforts to establish and maintain his orientation while traveling in an outdoor environment. The visually handicapped traveler relies on tying together a series of clues by means of memory and logic in order to plan and execute a route and to be able to deal with unexpected situations or a loss of orientation that may occur along that route.

One unique component of orientation and mobility programs which is designed to test the client's knowledge of an area and his problem-solving ability and to prepare him for occasions when he may become disoriented is the "drop-off" lesson. In a "drop-off" lesson the client is taken to an area with which he is already familiar. However, the instructor drives to the area in such a way that the client will not be able to maintain his orientation and will not know the precise location of his starting point. The instructor merely tells the client the objectives to be located, and he then leaves the client to solve this problem on his own. The client must first assess the information that is available to him and attempt to establish his present location. This usually involves narrowing the choice of where he is to two or three possibilities and then moving through the area to collect more information in order to verify one or another of the hypotheses. Once he knows where he is, the client then must decide on the best route to the objective. This type of lesson provides the client with definite feedback about the quality of his decisions and is instrumental in advancing his skill in problem-solving. Also, in reference to the preceding section of this paper, success in "drop-off" lessons seems to have a significant impact on the blind traveler's self-confidence.

This aspect of mobility training that deals with the problem-solving and decision-making abilities of the visually handicapped client is too seldom discussed and too little appreciated, especially by those who seek to lower the standards for certification of mobility instructors which were established by the COMSTAC report. These individuals see mobility instruction as merely the training in the long cane techniques, and equate the mobility instructor with the physical therapist, or the occupational therapist, or the physical education teacher. However, the core of mobility instruction is in the area of conceptual learning, whether it is learning concepts about the

structure of the environment which congenitally blind clients must do, or whether it is learning the concepts of efficient problem-solving which all clients must accomplish. The mobility instructor must be able to evaluate the client's cognitive abilities in this area and must be able to effectively intervene when necessary to help the client improve upon his skills of problem-solving. In this respect, orientation and mobility instruction seems to be more relevant to the development of certain intellectual functions than are the majority of the traditional academic subjects.

Independence vs. Dependence

The improvement of the mobility client's self-concept and the improvement of his ability to make proper judgments are closely interwoven with the development of his sense of independence. From the beginning stages of the mobility sequence the instructor communicates to the client that he must begin to assume responsibility for his own safe movement. This is first expressed in the statement that the client must learn *to use* a sighted guide instead of learning *to be guided*. Often during the course, the instructor has to exercise patience and restraint and must allow the client to get into and out of problem situations on his own in order to convey to the client that he is responsible for his own travel.

In America there is a strong cultural value placed upon independence. It is equated with strength and leadership. On the other hand dependence is often disvalued and associated with weakness and indecision. However, as was indicated above, society almost forces dependence on the disabled person. The visually handicapped client receives a double message from his environment. As with so many other dichotomies, neither extreme is valuable by itself. Neither total independence nor total dependence is a viable position in our present society. In mobility terms, the visually handicapped traveler learns that he can and indeed must be responsible for his own safety in most situations that he encounters, and it is felt that this feeling of independence is necessary for the development of an adequate self-concept. However, there are other situations which demand that the blind traveler seek assistance from sighted pedestrians. Another responsibility of the mobility instructor is to help the client recognize those situations that he cannot handle alone and to be able to obtain and use sighted help. Also he must be able to obtain this help without surrendering all of his self-respect. A mature "independence-dependence balance" (Wright, 1960) is built around the concept of responsibility. A responsible traveler does not adhere to an unrealistic standard of independent functioning in situations where this adherence would be potentially harmful or unnecessarily inconvenient.

In soliciting aid from the public, the client must not only be able to contact people on the street or get their attention, but he must also take charge of the interchange. This is necessary since the average person on the street is not aware of what kinds of directions will be useful for the blind traveler. The client must ask the types of questions that will lead to the information he can use. Therefore, even when the blind traveler may appear to be most dependent, when he is soliciting help on the street, he has to maintain a certain amount of reliance on himself if he is to use the help properly.

Coping with Stigmatization

The point has been made several times in earlier sections of this discussion that society reacts to disability, especially when the disability is readily visible. The reactions of others, though often illogical and not reality-based, are a definite part of the environment which presses upon the disabled person. Goffman treats this subject interestingly and at length, stating, "The attitudes we normals have toward a person with

a stigma, and the actions we take in regard to him, are well known, since these responses are what benevolent social action is designed to soften and ameliorate. By definition, of course, we believe the person with a stigma is not quite human. On this assumption we exercise varieties of discrimination, through which we effectively, if often unthinkingly, reduce his life chances. We construct a stigma-theory, an ideology to explain his inferiority and account for the danger he represents, sometimes rationalizing an animosity based on other differences, such as those of social class. We use specific stigma terms such as cripple, bastard, moron in our daily discourse as a source of metaphor and imagery, typically without giving thought to the original meaning. We tend to impute a wide range of imperfections on the basis of the original one, and at the same time to impute some desirable but undesired attributes, often of a supernatural cast, such as 'sixth sense' or 'understanding'."[3]

Of course Goffman was discussing a wide range of stigmatizing conditions, but his main point is readily applicable to those who are blind, as was pointed out by Gowman: "For some, there may be a hesitancy about touching or steering the blind, while for others, the perceived failure to see may be generalized into a gestalt of disability, so that the individual shouts at the blind as if they were deaf or attempts to lift them as if they were crippled. Those confronting the blind may have a whole range of belief that is anchored in the stereotype."[4]

Oftentimes the visually handicapped client has not had to face the reactions of the general public prior to participation in the mobility program. He may have been isolated from these reactions by his family or by a small group of friends and associates. It is often the mobility instructor who first encourages the client to face the public.

The mobility experience also encourages this encounter in a manner which the client initially perceives as "advertising" his disability, that is, through the use of a cane. Even though the long cane, properly used, is more accurately an advertisement of the individual's ability to cope with his disability, the client often does not perceive it in that way in the beginning phases of instruction. As Wright points out, "A person's reaction to social incidents is conditioned by how he perceives himself and his disability – i.e., by his self-concept. Nevertheless, the form his reaction takes may in itself go a long way in worsening the disturbing relationship, or in controlling it, or even in shifting it to a congenial interchange. More than that, it may have some consequence for his own self-regard, for both behavior and the self-concept are reciprocally interdependent – they are both cause and effect of each other."[5] The mobility instructor, then, finds himself in the position of being with the client and being responsible for him during many incidents which appear to be rather critical to aspects of the client's total adjustment to his disability. It becomes the mobility instructor's task to help the client evaluate how he interacted with people and how the client's own actions may have improved or worsened the situation. The client often feels that he knows how to react, but he has difficulty putting his plan into practice when the actual situation occurs. The instructor may have to provide the client the opportunity to "role-play" some of these situations in order to develop the ability to handle such encounters.

Every mobility instructor can attest to the frequency of situations where the blind traveler encounters those who want to help him as well as those who are just curious or who want to offer their sympathy. Likewise these instructors can testify to the emotional

---

[3]Erving Goffman, *Stigma: Notes on the Management of Spoiled Identity* (Englewood Cliffs, N.J., 1963), p.5.

[4]A. G. Gowman, *The War Blind in American Social Structure* (New York, 1957), p. 198.

[5]Beatrice A. Wright, *Physical Disability – A Psychological Approach* (New York, 1960), p. 274.

upset that such encounters can cause for their clients, especially when they first start to occur. However, again, the graded sequence of the mobility lessons, proceeding from travel in quiet areas which are light in pedestrian traffic to travel in more heavily congested business areas, allows the blind traveler to begin to develop some self-confidence and self-esteem before having to deal directly with the effects of stigmatization. In addition, the fact that training is carried on in a real environment as opposed to a simulated environment enables the client and instructor to deal with this type of obstacle while the instructor is available to help the client cope with these difficulties.

Formal Mobility Instruction for Other Handicapped Groups

What has been presented so far has been an attempt to conceptualize some aspects of mobility instruction for the visually handicapped that are often not understood to be a part of mobility training by those who are not directly involved with this type of instruction. These concepts have included the effect of mobility training on the individual's self-concept, his problem-solving and decision-making ability, his sense of independence, and his ability to cope with the stigmatizing nature of his disability. It has also been suggested that many of the problems which blind clients experience in these areas do not result directly from the visual loss but are more frequently the result of society's reaction to an individual's visual handicap. And society reacts this way toward all those who are handicapped. Individuals with all types of handicaps, especially if they are congenital handicaps, may experience a reduced self-concept, an inability to make decisions for themselves, ambivalent feelings toward independence, and anxiety about dealing with the public. Therefore, in addition to whatever skills or special equipment these individuals with other handicaps may require, they might also appear to benefit from individualized instruction in safe and efficient movement through the community which would incorporate the concepts of lessons of graduated difficulty and responsibility, training in the actual community environment, and individualized feedback about how the person reacts to his stigmatization.

Programs for those who are orthopedically handicapped generally provide their clients with the techniques and equipment for walking or traveling in a wheelchair, but they do very little systematic work in the community with the client. The assumption is made that once the client can move, he will be willing and able to leave his home and deal with the social environment without additional assistance. Undoubtedly many of these clients do so, but certainly many do not. In addition, many of those who do travel independently could probably improve the quality of their adjustment if they were provided with help in coping with the stigmatizing nature of their disability.

Programs for the mentally retarded are usually more aware of the problems associated with independent travel and they often have mobility classes. In these classes the students learn how to recognize information and danger signs, how to use buses and perhaps read bus schedules, and they discuss what is acceptable behavior on the street and in different travel situations. In general, individuals in mobility classes for the retarded spend very little time traveling in the actual community, and when they do, it is often done in groups. This does not seem to allow the individual enough of an opportunity to develop his confidence in his own abilities, his skill in decision-making, and his techniques for coping with the reactions of others that he will encounter. One exception to this situation is the program of the Occupation Day Center in New York which was described by Tobias (1963). Tobias recognized the fact that a retarded individual's lack of travel ability is not due as much to his retardation as to restrictions of his parents. When the Center proposed a course in travel training, the parents of the clients served by the Center totally rejected the idea. Among their objections they listed the fear that the students

would get lost, that people would make fun of them, and that they would be helpless in any emergency situation. Tobias said, "Parents were reluctant to accept this skill as an important factor in building their children's self-esteem through a difficult achievement." Eventually, however, the Center began a program to teach some of their clients to travel independently from their homes to the Center, which involved traveling through New York City and using the subway system. Individual staff members were assigned to the trainees and assurances were given to the parents that self-travel would not be permitted until the student had demonstrated a mastery of the route. The trainees were taught to use concrete landmarks that were meaningful to them and they were given opportunities to find significant objectives in the area and to make decisions about the best routes to the objectives and the best routes back to the Center. Mistakes in orientation were not immediately corrected, and stress was placed on self-recognition of error and the assurance that mistakes could be repaired without serious consequences. The range of IQ's of the thirty-six individuals who were eventually cleared for independent travel was from 20 to 52 with a mean IQ of 37.8 Those who were not able to profit from the instruction ranged in IQ from 17 to 44 with a mean of 27.6. This enabled Tobias to state that the ability to travel and the level of intelligence of trainable mentally retarded students were significantly related at the .01 level. Most mobility instructors for the visually handicapped will recognize in the program described by Tobias several concepts and procedures that are very similar to aspects of their own programs.

Among other groups that may experience difficulty with independent travel, the problems experienced by those who are deaf may involve only those situations where they must communicate with the public to obtain information. However, to repeat a point made previously, the congenitally deaf client may lack confidence in his ability to maneuver through the environment and may have been prevented from making decisions for himself as a result of his parents' overprotectiveness. Other individuals who may require help with independent travel are those who have been institutionalized for a long time in mental hospitals and who are returning to the community. They may have developed what has been referred to as an institutionalized gait pattern which may stigmatize them when they return to the community. In addition, they may need assistance with normalizing other aspects of their appearance or behavior, they may need support and encouragement to leave their apartments and attempt independent travel, or they may require a general orientation to the community and an awareness of the types and locations of available services and activities.

If the programs that provide services to these other groups begin to move in the directions suggested here, they will have to face and deal with the question of who will teach these skills. Presently the programs that serve the visually handicapped are alone in their recognition of the significance and the complexity of teaching the skills of independent travel and in their commitment to the provision of highly trained professional personnel to meet the needs of their clients.

Conclusions

This discussion has focused on an aspect of orientation and mobility instruction that is of critical significance, but which is often neglected in the literature. In general this aspect can be referred to as the impact of systematic training methods on the visually handicapped client. These theories and personal observations regarding the impact of orientation and mobility instruction on the life style and level of functioning of our clients need to be documented through controlled research. Many of the constructs suggested by social psychologists and cognitive theorists are applicable to much of the research that must be done.

Also, the concepts discussed above relate to several current topics with which mobility instructors are involved. First of all, the complexity of the task of providing mobility instruction should be considered when dealing with the recurrent suggestions to lower the standards for certification of mobility instructors. The mobility instructor must understand and contribute to both the psychosocial adjustment and the problem-solving ability of his clients. The mobility instructor has to be conversant with both personality dynamics and learning theory to be able to relate to other professionals in regard to these topics. There is considerably more to mobility instruction than teaching cane techniques, and the professional mobility instructor must be adequately prepared to also deal with the psychosocial and cognitive aspects of teaching a visually handicapped person to travel independently.

In addition, the equating of mobility instruction with the teaching of cane techniques and the inattention given to the psychosocial and cognitive aspects of the experience have sometimes led to inadequate services for some types of clients. The partially sighted client, the aged blind client, and the multi-handicapped blind client have sometimes been denied mobility instruction when the instruction has been considered merely the teaching of the long cane techniques. However, the partially sighted client may require systematic mobility instruction to overcome the effects of overprotection or a lack of an opportunity for exploration and for independent functioning in travel situations. Also he may require instruction and support in his attempts to deal with the stigmatizing nature of his visual problem as he interacts with the public. Moreover, the partially sighted client may have a distorted self-concept which may be improved through the acquisition of travel skills and the experience of success in the mobility program.

In considering the aged blind client, it is necessary to first emphasize the point that just as the developmental process is highly individualized so too is the aging process. Therefore it is inappropriate to suggest that *all* aged blind clients will have other disabilities and limited needs and will not require a complete course in mobility instruction. However, even for those geriatric blind individuals who do have limited abilities and limited travel needs, the reception of mobility instruction can have a significant impact. Even though the aged blind client's needs may be limited, the satisfaction of these needs on his own can improve his self-concept and sense of independence, especially if he had been accustomed to doing things for himself throughout his life. Even if the client's travel goals merely consist of learning his way around the nursing home or around a small housing complex, the successful accomplishment of these goals can help the client maintain his self-esteem and his sense of dignity. However, to think that since the aged blind client's goals are limited, the skills of the instructor can also be limited is an inappropriate conclusion. The mobility instructor for the aged blind must be highly skilled in assessing the effects of reduced hearing or reduced physical tolerance on what the client can be expected to accomplish. In addition, the mobility instructor has to deal with the motivational problems of the aged blind client if he is to successfully engage him in mobility instruction. This is especially true if the client is feeling rejected by family and friends. Sometimes the greater independence provided through mobility instruction can make the difference in enabling the aged blind client to continue to live at home as opposed to being placed in a nursing home.

A third group that will profit from systematic methods of mobility instruction is multi-handicapped blind children. Attempts to teach these children to travel by themselves even within limited home or school areas will have a significant impact on their development. The mobility instructor works with the child in developing his concepts about the environment and in learning how to react to the information he receives from the environment. The development of perceptual-motor skills during the preschool years is significant not only for independent travel but also for the general

intellectual development of the child. This latter point is applicable not only to multi-handicapped blind children but to all multi-handicapped children.

One more conclusion that can be drawn from the ideas presented in this discussion is that the expertise and the experience of mobility instructors for the visually handicapped are relevant to rehabilitation and education programs for other handicapped groups. Mobility instructors should reach out to these other programs and share their past successes and difficulties in teaching visually handicapped clients to travel independently. As suggested above, much of what has been done for the visually handicapped can be adapted for other groups to aid their independent travel. Mobility instructors who are employed by public school systems are in a good position to extend what they have done to other types of handicapped children. Perhaps, too, some public school systems are reluctant to hire mobility instructors because of small numbers of visually handicapped students. But the realization that the services of the mobility instructor can be applied to all types of special education students may encourage the reluctant school systems to expand their services in this direction.

Finally, the central focus of orientation and mobility instruction as viewed in this discussion is the client. Success or failure as an independent traveler will not depend as much on the long cane, a dog guide, an electronic device or a low-vision aid as on the person using the aid or device. The key to the success of orientation and mobility instruction is the impact that the experience has on the client and the effect of the instruction on his self-concept, his problem-solving ability, his sense of independence and his ability to cope with the stigma.

BIBLIOGRAPHY

Barker, Roger G., Beatrice A. Wright, Lee Meyerson, and Mollie R. Gonick. *Adjustment To Physical Handicap and Illness: A Survey of the Social Psychology of Physique and Disability.* New York: Social Science Research Council, 1953.

Cofer, Charles N. "Reasoning As An Associative Process: III. The Role of Verbal Responses in Problem Solving." In R. C. Anderson and D. P. Ausubel (eds.) *Readings in the Psychology of Cognition.* New York: Holt, Rinehart and Winston, Inc., 1966.

Festinger, Leon. *A Theory of Cognitive Dissonance.* New York: Harper and Row, 1957.

Goffman, Erving. *Stigma: Notes on the Management of Spoiled Identity.* Englewood Cliffs, N.J.: Prentice-Hall Inc., 1963.

Gowman, A. G. *The War Blind in American Social Structure.* New York: American Foundation for the Blind, 1957.

Heider, Fritz. *The Psychology of Interpersonal Relations.* New York: John Wiley & Sons, Inc., 1958.

Lewin, Kurt. *A Dynamic Theory of Personality.* New York: McGraw-Hill, 1935.

Maslow, Abraham H. *Motivation and Personality.* New York: Harper & Brothers, 1954.

Maslow, Abraham H. *Toward a Psychology of Being.* Princeton, N.J.: D. Van Nostrand Company, Inc., 1962.

Maslow, Abraham H. "Some Basic Propositions of a Growth and Self-Actualization Psychology." In Gardner Lindzey and Calvin Hall (eds.) *Theories of Personality: Primary Sources and Research.* New York: John Wiley & Sons, Inc., 1965.

Scott, Robert A. *The Making of Blind Men.* New York: Russell Sage Foundation, 1969.

Tobias, Jack. *Training for Independent Living.* New York: Association for the Help of Retarded Children, 1963.

Wright, Beatrice A. *Physical Disability - A Psychological Approach.* New York: Harper & Row, 1960.

SOME EFFECTS OF CHANGES IN LIBRARY SERVICES FOR THE BLIND AND PHYSICALLY HANDICAPPED

By Charles Gallozzi

The Federal program of providing library services to blind persons was started in 1931 and grew at a nominal pace until 1966. The enabling legislation was then broadened so that not only blind individuals but anyone who cannot utilize ordinary print because of any physical impairment became eligible.

This paper is a summary of some reactions to and some effects of changes in the program that have occurred since the middle 1960's.

It may be useful at the outset to define blindness and physical handicaps as they relate to eligibility for Federal library services. In the popular mind a blind person is generally a totally blind individual who has no useful eyesight. Legally, a blind person is an individual whose visual acuity is no greater than 20/200 or whose angle of vision is no greater than 20°. The legally blind far outnumber the totally blind and many of them are handicapped by their impaired eyesight only when discrimination of details is necessary, such as in reading ordinary print. It is that characteristic that makes the legally blind eligible for the Federal library program. The physically handicapped who are eligible users are those persons who are so physically impaired that they cannot readily hold a book or magazine, and cannot easily turn a page, regardless of their ability to see or recognize print.

Those formats selected for books and magazines traditionally have been braille and recordings. While many people think of braille as the primary reading medium of blind persons, it actually is used by less than ten percent of the legally blind. The passive act of listening to a recording requires no special training and has been widely accepted, particularly by people who lose their visual acuity late in life. It is also practical for individuals who have lost all manual dexterity, although many physically handicapped persons with useful eyesight are demanding a visual mode of reading that they can utilize despite their limitations. Various systems that might meet their needs are being explored by the Library of Congress.

It is a truism that the effects a change in program can have on those who benefit from it usually are in direct proportion to the importance which users attach to the program. This was dramatically illustrated in 1963 when the first serious attempt was made to alter greatly the Federal Books for the Blind law. Those speaking in behalf of blind beneficiaries were much opposed to any change, as is clearly shown by the excerpts that follow from testimony presented before a Congressional subcommittee:

> To be able to read, to be able to choose books in accordance with individual tastes and needs, from a broad and varied selection of titles and topics – truly this is to live fully, this is to be afforded the opportunity to achieve fullness and fulfillment in life. . . . The existing program, administered under this act, is of inestimable importance to blind people. Dissipation of its purpose to any degree, diminution of library service to any extent, would be a catastrophe of major significance to all blind people in the Nation.
>
> But broadening the purpose and scope of the existing program of books for the blind, by including quadriplegics and the near blind in the program, would not only be catastrophic for the blind, but it would be a disaster to them without any compensating gain or benefit to the new groups included in the program. For all users of the program would suffer alike in the deterioration of library service which would result. . .
>
> If it is not possible to anticipate the number of near blind persons to be included in the existing program, then how is it possible to estimate and prepare for additional demands upon the program from them? . . .
>
> Will it not result in deterioration of the library service program upon which the blind of the Nation are totally dependent for reading matter without providing compensating benefits to the groups of disabled persons included in the program by this legislation now pending before you? (1)

Among the most cogent questions raised was whether some agencies in the various states serving the blind exclusively would be able to provide library services to those not blind in the absence of statutory authority to do so.

There was also, of course, testimony in favor of broadening the program to include the physically handicapped. Some who testified were themselves handicapped, as the following excerpts from the testimony show.

> All we want to do is to share the talking books available. I feel that this would open up new horizons for many people who are very much shut-in and it is our right to be informed citizens and talking books would be one method of doing that.
>
> We feel that the passage of this legislation will do much to increase the educational background of the near blind and the quadriplegic readers. We want to introduce another idea: that the knowledge acquired through these books by this larger group of people who will have access to this information, may increase the employment potential of these individuals. It could result in many more physically disabled persons acquiring specialized knowledge that could provide the means of securing economic independence. . .
>
> Upon reading this amendment, I am struck by its possibilities for some of our elder citizens. . . These people are not totally blind and can see well enough to conduct their daily lives. They do not qualify as legally blind. Nevertheless, they are often unable to read without great strain. . . (1)

That proposed legislation, H.R. 2853, died in committee and was not pursued further that year. But the 1960's were a time of social change, of increased interest in education, rehabilitation, and strong Federal participation in programs designed to improve conditions for all groups needing special help. And those interested in helping the physically handicapped renewed their efforts to secure Federal support. By 1966, several bills, including H.R. 13783, had been introduced into Congress to extend the Books for the Blind program to all persons who could not read ordinary print. When hearings on H.R. 13783 were held in 1966, the Library of Congress indicated it foresaw no serious problem in administering an enlarged program:

> . . . We expect the increase in the program to be gradual, for it has been our experience that all persons eligible for such a special library service do not immediately take advantage of it. We estimate that for the first full year of service, approximately $1,500,000 over and above the current budget of nearly $2,700,000 will be necessary. (2)

In the three years intervening between the first and second series of hearings, much opposition had waned, although some reservations continued to be expressed. Chief

among these was the possible entry of libraries into the program that might not be knowledgeable enough about the special library needs of the blind.

As has been noted, the Library of Congress recognized that not all eligible persons would demand service immediately. Problems of communication, of informing those who would become eligible, would be even greater than those of communicating with blind persons.

One of the greatest drawbacks brought out in the hearings on H.R. 13783 was the lack of a reading medium especially tailored to the physical capabilities of individuals who could not handle normal printed material yet who had fairly good eyesight. The handling of phonograph records requires even more manual dexterity than turning a page. Reading by listening is passive in nature, dependent on the reading rate of the narrator and tending to give a specific interpretation. Those blind persons who did not read braille had accepted the disadvantages of recorded reading since they had no obvious alternative; the question remained whether they would be accepted by sighted persons who were physically handicapped.

An enlarged program this time was approved with the enactment of Public Law 89-522 and Congress increased its appropriation to allow rapid implementation. The Library of Congress immediately increased the number of titles it was recording and the supply of record players. It also developed speed controls so that the listening speed could be increased or decreased within prescribed limits, and remote controls so that a phonograph could be turned on or off by merely touching a metal plate with any part of a person's body. All periodicals were then recorded at 8 1/3 rpm so that once a record was placed on the turntable a reader could listen for an hour and a half, or stop and start at will during that period, without help from anyone else.

The next major improvement provided was the recording of books on magnetic tape cassettes. Cassettes are easier to handle than records, and cassette players, easier to operate than phonographs. Cassette players, moreover, can be readily modified so as to be operable even by individuals with no manual dexterity at all.

As the program grew, some facts of great interest soon became apparent. Many of the newly eligible persons also had serious eye problems, and would have been eligible under the former legislation as legally blind persons. Their major disabilities had been considered the determining factor, and they had been classified as victims of cerebral palsy, multiple sclerosis, or muscular dystrophy, with little if any attention to visual needs. In addition, many blind persons were found to have other physical impairments, and were benefited by the changes made for physically handicapped readers. Because some of the more crippling diseases also cause mental retardation, some special recordings were prepared and actually opened a new world for mentally retarded blind children who had been largely overlooked until then.

When looking at the program's experience during the first five, full years of expanded library service, we find that the greatest beneficiaries have been the blind who were always eligible. The number of recorded books made available each year has almost doubled, affording a wider range of reading than could have been possible at the level of smaller appropriations. Seventeen new regional libraries for the blind and physically handicapped were opened during that period, bringing widely improved services. The number of persons using the service more than doubled, as did the number of volumes circulated. Approximately one-third of the readers at present are not blind.

Meeting the needs of those readers who are physically impaired but not blind is one of the larger problems remaining in providing comprehensive service to those eligible for

Federal library service. As has been stated, this problem has not been ignored. For the last few years, various visual systems of reading which could possibly be used by or adapted for people with no manual dexterity have been studied. Mechanical page turners were found to be generally unsatisfactory on the basis of both cost and lack of reliability. Projection of a microform on a self-contained screen appeared to offer the best promise, though no existing equipment was found to be practical. It was decided to concentrate on filling that gap, and a number of commercial firms were asked to submit proposals for a system which would meet the criteria deemed to be essential. At least one system has been scheduled to undergo testing during 1972. Whether or not it succeeds, one fact is clear: library service for the physically handicapped will eventually utilize the visual capabilities of the people it serves.

Rapid growth of the specialized Federal library program has pointed up the need to increase the number of service points so as to avoid undue delays and to help overcome the space problems faced by increased collections in the regional libraries. Subregional libraries have been established in a number of states, a trend that appears to be becoming nationwide. Subregional libraries usually are public libraries that are headquarters of multi-county or multi-community public library systems. Each local library in the respective systems is encouraged to serve as an information and referral center for the braille and talking book program, and to work closely with county health and service organizations and associations. The result has been a greater awareness by the public, not only of the library service available, but also of the needs and capabilities of handicapped persons.

As the resources of the specialized library program become more widely known and used, technologists have become more interested in applying their know-how to solutions for some existing problems. The Library of Congress has taken the lead in stimulating some technological innovations, such as the 16 2/3 rpm phonograph records and record player, that came to be accepted commercial standards by industry. A notable, recent innovation developed for the Library is the modification of Norelco-Philips tape cassette players to include the speeds of both 1 7/8 and 15/16 inches per second, a feature which is not yet available commercially.

Among the effects attributable to broadening the scope of the program offered by the Library of Congress are the following:

1. Blind persons have been provided with far more reading materials than were previously available.
2. Blind persons who have additional handicaps now have materials especially prepared to fit their needs.
3. Physically handicapped persons with no manual dexterity can enjoy the talking book program.
4. Playback equipment as well as recordings have been improved for greater ease of handling and listening, with reduced need for changing records or cassettes.
5. There is now increased cooperation among local public libraries, regional public library systems, regional libraries for the blind and physically handicapped, state libraries, and the Library of Congress.
6. The general public is more aware of the needs and capabilities of handicapped persons, and of the services available to them.
7. Congress has responded to the expressed need of the library program by increasing the appropriation.

8. Business and industry are cooperating with the Library of Congress in developing new equipment or improving what is already available, so as to make reading easier for blind and other physically handicapped persons.

REFERENCES

1. Hearings before the Subcommittee on Library and Memorials of the Committee on House Administration, House of Representatives, Eighty-Eighth Congress, First Session, on H.R. 2853 (July 30, 1963).

2. Hearings before the Subcommittee on Library and Memorials of the Committee on House Administration, House of Representatives, Eighty-Ninth Congress, Second Session, on H.R. 13783 and related bills (March 29, 1966).

PROCEDURES FOR THE ACTIVATION OF AN ORIENTATION AND MOBILITY PROGRAM

By Daniel Newton Head

At our universities students are trained to teach mobility, but, unfortunately, due to the short term of the university program, little time may be allotted to explanations or discussions about developing an orientation and mobility program. Due to the realization of this problem and the awareness that a great number of individuals find it necessary upon graduation to set up a new program, a canvas was made of experienced instructors in the field who had during some period of time set up a mobility program.

This collection of thoughts and ideas was accomplished in two ways – the first being an eight item questionnaire, the second being a taped interview of eleven questions.

It must be made clear that the areas covered are not the only answers to how to set up a mobility program, nor do they include all possible complications and difficulties that may be encountered. Neither should it be assumed that the stated answers and remedies to these problems are the only possible ways of avoiding or minimizing the problem. These suggestions and solutions are nothing more than guidelines for interested individuals, and can be modified or completely disregarded. The remarks that are presented are sufficient to present a concrete base for those who are about to set forth and develop a new program. The experiences related in this presentation are bound to be beneficial and will reflect themselves in a good, complete program.

The presentation of the material collected through the questionnaires and the taped interviews will be included in four sections, progressing from initial considerations in the establishment of a mobility program to the desired goals.

I. Initial Considerations in Establishing a Mobility Program

When a mobility specialist sets out to begin a new mobility program, there are several areas that must be taken into consideration. These considerations are a combination of areas of immediate need and potential problems that jeopardize the successful development of a program.

To begin, the mobility specialist should charge himself with the responsibility of "reading the literature that has been written about the field and the history of the institutions that have been most successful and beneficial to those blind persons they serve. Also the instructor should take great pains acquainting himself with the history of the organization with which he is going to affiliate himself, and learn just as much as possible about it. This is of paramount importance because the amount and type of rehabilitation practiced by an organization reflects its philosophies, and frequently can

reveal or bring out the dominant purpose with which the institution was established. . . ." (Farmer[3]) Along these same lines, the instructor should analyze his job description with his employers to interpret his role. At this point the instructor is ready to move into the new position, begin his work, and establish an orientation and mobility program.

Those individuals questioned on the manner in which a mobility program should be structured had diverse reactions as to where to place priorities. The structure explained in the following paragraph seems to have the strongest agreement and support among those questioned. Any deviation from this structure should not hinder the success of the potential program as long as all areas presented are covered, and the instructor is capable of organizing and incorporating his own ideas and thoughts in a logical manner.

In order to establish a smooth and complete mobility program, it is important that the instructor set up the objectives and goals of the program. When the objectives are established in written form, it is easier to gear the program toward the goals. In this way the goals and objectives may be presented initially to others and can be considered the early criteria by which success or failure may be judged. The writing of these goals and objectives must be as specific as possible, including within them "what your lesson plans are, what tests you are going to give, what end results you hope to reach, etc." (Hall[5]) After the program has been in progress for some period of time, the instructor may then go back to the original goals and objectives and reevaluate them in a more realistic manner. This is a good time to make necessary changes to improve the quality of the program and services provided.

After establishing the goals and objectives of the potential program, the lesson plans that will be used in teaching actual mobility techniques must be formulated. This task must start with the instructor taking the time to look over various areas that make up potential lessons. It is important to "know the area that you are going to be working in thoroughly – the streets, the stores, etc. – and plan carefully for the needs of each mobility client with whom you work." (Vanderveer[11]) Once the specific areas have been selected, the instructor must draw up a set of rough lesson plans and sequence them in the best manner conceivable. The instructor should then take the time to blindfold himself and attempt the runs. This provides the instructor with the necessary experience to finalize the lesson sequences. "Too often it is difficult to visually check a route and observe all the possible difficulties that a client may have. By attempting the route under the blindfold, the instructor is allowed the opportunity of locating potential problems not originally noticed." (Hall)

When the instructor sets out to select the areas that he wishes to use for his lesson sequences, it is important to be sure that the sequences progress in a logical manner. The residential, semi-business and business areas should ideally be selected on the basis of their potential for allowing the client to build from unit to unit. This natural progression helps in the formation and development of concepts that were initially established in the residential area. Unfortunately, this is a problem in metropolitan areas, as residential areas are not readily available. In such cases it is important to find areas that fill the needs of residential travel and are in close proximity to the rehabilitation center. This eliminates loss of time in traveling from the center to the residential area.

A factor that must be discussed in conjunction with lesson plans is the scheduling of clients through established lesson sequences. The following guidelines for instructing clients are those of Malamazian[6]:

> Too frequently mobility training is offered only when the student has a free period or perhaps he will be taken out of a physical education class or you catch him when you can. I don't feel this is the best way to teach mobility. I feel strongly that mobility should be

scheduled on a regular basis so that the student knows each day what time he should report for mobility instruction. Mobility is just as important as English, arithmetic, braille, typing or whatever.

Another important factor is that the client be scheduled for mobility during various hours of the day in order to take advantage of various situations. For example, traffic at 9:00 a.m. may be less hazardous or may be lighter than traffic at 8:15 a.m., or it may be lighter than traffic at 3:30 p.m. So mobility instruction should be varied as far as time of day to encounter different kinds of traffic situations, especially in the wintertime. Traveling in snow at 8:15 a.m. before people are out to shovel their walks or stamp down paths may be more difficult than traveling at 10:15 a.m. Along these same lines mobility instruction should be expected to continue in all kinds of weather within reason. The clients are going to be expected to attend their jobs or classes no matter what the weather conditions happen to be – rain, snow, etc.

Daily lessons are also of utmost importance for the progress of the client. In some cases where the student has become a fairly competent traveler, the daily instruction may be reduced to possibly three times a week. But certainly at the outset and through most of the training, I would insist upon daily instruction for every client in my program.

Another important factor is that the client be required to use the cane and proper mobility skills at all times, day or night, during class or outside of class. You cannot become a proficient traveler if you only use the mobility techniques one hour a day.

These points that Malamazian brings out are reflections of the program he heads in which staff size makes possible this form of scheduling. In situations where the staff size is limited and client load is high, the instructor must do the best possible job of scheduling. The mobility specialist must see to it that the client receives as many lessons as possible during a week's time. The ability to work with clients at different hours of the day will also be restricted if the staff size is insufficient. Consideration for these types of modifications of a mobility program should be remembered and, whenever possible, be attempted. For example, if a client scheduled for a 2:00 p.m. session cancels out and your 8:00 a.m. client has a free hour, then it may be possible to give the latter an extra lesson, providing him with travel experiences in traffic conditions which vary from his normal lesson.

The beginning of an in service training program is also important and should be started very early in the setting up of a new mobility program. Unfortunately, because one should deal with the entire staff in this matter of in service training, it is not possible to devote extended periods of time.

Most of your staff members are going to have other responsibilities that they must meet and are not going to be able to devote the time to long in service training sessions. You should, therefore, try to come up with a schedule into which you can work your in service training program. During this time you should try to include your entire staff, but the main concern is presenting this in service training to the other professional staff members. These staff members are going to be the ones that compliment the mobility program and have the greatest contact with the students. The in service training is important not only to convey the techniques that are taught in mobility, but also to convey the fact that the blind students need reinforcement from all the staff for using correct mobility techniques and procedures. The staff should understand what it is that mobility is trying to accomplish. The staff should also know how mobility fits into the total rehabilitation program, and how mobility can and will help them in their particular areas. The understanding of these factors will help to instill a good relationship between all staff members so that they will not feel threatened by mobility.

A good approach to in service training is to have informal discussions of lectures, films, and role playing, all of which can help to make the staff members familiar with orientation and mobility. Following these types of discussions, it is important to take the members, individually or in groups, and train them in the Basic Skills while under the blindfold. The group can easily be broken down into pairs with individuals observing and helping each other. This can be preceded with a discussion and demonstration of the techniques, and an

explanation of how the techniques will help in specific areas. Following the training under the blindfold, the staff members may reassemble and discuss the reactions and experiences of that period.

Once the Basic Skills section has been explained, it will be necessary to inform the staff as to the sections that follow, i.e., Residential, Small-Business, Business, etc. It is possible to schedule each staff member for an observation of a client who is in one of these advanced areas, or at least inform him that there is an open invitation whenever he has a free period. At this point it is also possible to show films such as *The Long Cane* which can help to demonstrate travel conditions while outdoors. This type of in service training program should give the staff members a pretty good idea of the type of program in existence and do much to strengthen the relationship between mobility and the other professional areas.

It should also be mentioned that it is necessary not to overlook the other members of the center's staff in an in service training program. The kitchen help, the custodians, the secretaries and all important ancillary personnel should be included in a separate in service training program. This program can be run in the same manner as the in service with the professional staff. (Weessies[12])

These areas of writing the objectives, the goals, the lesson plans, scheduling of clients, and running an in service training program can all be done concurrently. It is difficult and unwise to attempt to do too much at one time, but these are areas that can be easily accomplished at once through proper organizing, scheduling and planning by the instructor.

During this time the instructor would not have the responsibility of instructing students, but of planning and executing necessary areas. When the center opened, the mobility area would have a good foundation upon which to begin instructing students. In many cases it is easy for the mobility specialist to ask for and receive three to four "free" months in which to work on the establishment of a program. In other cases this is almost impossible to ask for, as the state may not feel that it can afford the time or expense to allow this freedom. In cases such as the latter, the instructor is going to feel pressed and will not be able to open his program with the ease that he might like. The program will reflect this lack of adequate preparation by the end of the first year. It is then difficult for the instructor to have to approach his supervisors and outline the reasons why time is necessary prior to working with clients. If possible, he must point out the advantages of being allowed this time early and present it in a convincing manner to his supervisors.

In a rehabilitation center, especially a new one, the mobility specialist is going to be concerned for the manner in which others – administration, visitors, etc. – view mobility. For this reason the mobility person is going to be very concerned with the mobility techniques of the other blind members of the professional staff – the braille teacher, the typing teacher, the teacher of techniques of daily living, secretaries, etc. This concern for the use of good techniques is liable to make the instructor overly zealous in his approach to the problem. Hall and Suterko[10] both point out that the safest way to deal with a problem of this nature is to discuss the matter with the supervisor or director of the program area. The supervisor then can mention it to the staff member about whom the instructor is concerned and, if felt necessary, can arrange for mobility training for that individual when the mobility specialist has the time. Using good techniques is an important matter and should not be treated lightly, as the students do mimic and follow the examples set by other staff members; therefore, the staff should be just as competent in their mobility techniques as the students are expected to be. The staff, like the students, should be expected to use the techniques at all times, inside and outside of class. Deficiencies in this area should be remedied by the mobility specialist taking the time to instruct the staff in the necessary techniques. This can best be accomplished prior to the opening of a new center, and becomes progressively difficult the longer the center or agency has been in operation. In any case, this must be approached with great discretion and due regard for the dignity of those individuals whom the instructor believes might benefit from further instruction.

The mobility specialist must at all times work to develop and cultivate the support of the administration if the mobility program is ever to fulfill its maximum potentials. It is the administration that allocates more funds, hires more staff, and extends the program in new directions. The mobility specialist must prove to the administration that its confidence in him was well deserved. Until the time when the mobility program is completely accepted, the department will be continually proving itself. This will be an uneasy period, but once acceptance and recognition have been given by the administration, one of the harder parts in setting up a new program will be over.

Following the establishment of the essential areas of a mobility program, the mobility specialist can begin to work on the lighter areas such as informing the public, communicating with other similar agencies, and ordering materials. All these areas are of importance, but less so than the writing of objectives and lessons. Each of these areas will have to be approached in a different manner from situation to situation and community to community, but many of the following suggestions will hold true no matter where the program is established.

The mobility instructor should be aware of the structure of the center and mature enough to handle departmental problems. He is the individual who must push for mobility and do his utmost to see that the mobility program is established in a solid, concrete manner to provide all necessary services.

The mobility instructor should also have the responsibility for ordering the necessary supplies for the program, i.e., canes, blindfolds, rainwear, cane accessories, etc. He must then be aware of the organization's specific means for ordering materials. "It is necessary to know the cost factor and cost allowance set by the state for the area, the delivery time, whether the state requires bids on all items, etc." (Hall)

There are many common problems encountered by first year mobility instructors which often are the products of inexperience. This lack of experience is probably the single greatest problem facing a new mobility instructor and can only be remedied through time and exposure. As one gains experience, "it seems to give a greater faculty in coping with problems and increases the individual's confidence." (Ziff[13]) The initial lack of experience will reflect itself in all areas of the mobility program and will have a direct bearing on the following:

1. There is difficulty in "setting realistic goals for the client and remaining flexible enough to reevaluate the client's performance and adjust the program accordingly." (Ziff)

2. New instructors tend to fail to keep "good progress notes on the development and progress of the individual students on a daily basis." (Malamazian)

3. The difficulty that many new people have in determining the termination date of the services provided to the client is also a function of inexperience. (Ziff)

4. It may be difficult for a new instructor in mobility to find "suitable areas for instructing students – areas that incorporate all the necessary environmental changes." (Bohman[2])

5. The new mobility specialist will in many cases find it difficult to "understand, though not necessarily accept, the many outdated philosophies, training methods, and objectives of the state and individual instructors." (Manuele[7]) This is due not only to inexperience, but also to the over-zealousness that often accompanies inexperience.

6. Difficulties may further arise because there is not "sufficient information from the state concerning the client – what is expected of the client upon his termination and what type of system for reporting back to the state is needed." (Vanderveer) The new instructor's initial reaction is likely to be one of "I can't work with this client not knowing a thing about him." With experience this attitude will change, and in time the instructor may be able to prod the state into providing more information on the clients that it sends to the center.

7. New instructors should be reminded not to "skimp on quality services. You are going to be watched very closely, initially, and you better be giving the best possible services that you can to the client with whom you are working. In some cases an instructor will try to accomplish too much in the first year and end up defeating his own program by not providing quality services, only quantity services." (Suterko)

Problems such as these are often encountered by new instructors; however, they can be dealt with effectively if the instructor is patient. Experience comes through patience and provides many solutions.

II. Areas of Special Concern in a Mobility Program

A mobility instructor about to set up a new program should consider several areas of special services that are oftentimes overlooked in the initial establishment of a mobility program. These special services are the criteria that set apart the excellent mobility programs from the good ones. They are of particular importance in that they provide a more complete and total rehabilitation program in the area of mobility. They will provide the necessary help for those students who are not the "average" student for whom the lesson plans were originally set up. They will better fit the needs of the exceptional client, whether gifted, slow or multiply handicapped. These special services are as follows:

1. A low vision program should be included to deal with those blind individuals who retain useful vision, but who have not been provided with the opportunity to maximize their use of this remaining vision. The time has come when mobility and the other areas of blind rehabilitation "can no longer treat these people as if they were totally without sight and educate them as such. We should begin to make use of their remaining vision and provide for this type of individual. The low vision program is the first step in this direction." (Weessies)

A good low vision training program should begin "with a low vision examination, recommendations as to whether low vision aids will benefit the client, and a functional vision evaluation." (Weessies) All become the responsibility of the orientation and mobility personnel who are adding low vision services to their mobility program.

2. Allowing the more advanced students in a mobility program to "plan their own lessons after they have become familiar with the area that they are working in" (Bohman) is another modification in a mobility program that is important. This type of modification is easily accomplished through adequate preparation and structuring of the lessons given to the advanced students. The student at this point should be capable of patterning his lessons after those of the mobility specialist. These self-planned lessons should be presented toward the end of the residential, semi-business and business area sessions. When the instructor feels that his student is ready for this type of lesson, he should make the student aware of what will be required and allow the student adequate time to prepare. Usually the night before is ample time for preparation and planning on the part of the student. The student should select his own starting point, run and destination, with the mobility instructor reserving the right to alter the run if he feels that the student has made the run too difficult or too easy.

3. Similar in nature to number two is the carry-over of lessons in the student's own home area. This is not the same as follow-up in that it is accomplished while the student is still participating in the rehabilitation program. However, it can serve the purpose of follow-up as long as it is presented toward the end of the student's program. (See Section III for further discussion of follow-up procedures.) In either case, this type of program is extremely important and should be provided to all students. Unfortunately very few centers will allow this type of program due to the prohibitive cost factor.

4. Those students who have demonstrated the ability to assimilate the training and are competent travelers in all areas should be "offered in depth lessons where they're taking public transportation from one city to another, and are required to function independently in that situation and then return to a designated objective." (Glatz[4]) This carries the ultimate goal of independence one step further and should be reserved for those students who are the most independent and will be required to travel to unfamiliar areas in their everyday work situations.

5. In order to provide the best possible program, it is important to have a special room that can be designated as the Orientation and Mobility Work Areas. This room would

"incorporate stereophonic tapes, computers and the whole bit to simulate the outdoor environment and different climatic conditions which students will be confronted with in their normal travels from place to place." (Farmer) This type of sensory training room and program will provide the student with experiences that he might not encounter while going through the mobility training and will prepare him to deal with different environmental factors when he encounters them.

6. "Having more coordination between the different services, especially between vocational rehabilitation and mobility" (Ziff) is important, as it provides direction for the mobility specialist in his initial goals for the clients. When a client enters the mobility program without a vocational goal, it is difficult for the instructor to plan for special areas where extra work is necessary for mastery of a technique, such as extended bus travel, etc.

7. There should also be provisions in a program for "parent and/or family group meetings on a regular basis" (Aust[1]) to better inform the client's parents and/or family about mobility methods and how they will affect the life style of the client upon termination of training. (See Section III for further discussion of this point.)

8. Today's mobility programs are primarily concerned with those individuals who have the sole restriction of blindness. Little has been done with the mentally retarded or physically handicapped blind clients. Sauerburger[9] states that she "would like to see more work being done with these individuals, at least to find out what potentialities they have." Maywalt[8] states that "modification of the techniques and procedures are, of course, necessary when dealing with the multiply handicapped client, but what do we really know about the abilities of the client who is mentally retarded? What cane or pre-cane techniques and procedures do we use in their case?"

There does seem to be some general agreement that mobility has reached an age where it is now able and responsible to begin dealing with individuals who are both multiply handicapped and blind. However, the incorporation of this type of program should not be attempted until all other areas of a program are running smoothly and efficiently. Then and only then can this type of expansion be made on a large scale basis.

The eight areas discussed above are just a few of the many potential concerns that face mobility today. The inclusion of these services into existing mobility programs is dependent primarily on a future increase in the number of trained mobility instructors. There is definitely a need in the field of orientation and mobility for more qualified people. Filling this need would "facilitate the teaching of many more students, allow better feedback on the client's progress, and work to strengthen our programs. Communications between instructors in the field would also be improved, which would lead to the development of new ideas and views as to mobility and give better evaluations to our programs." (Hall) However, lack of staff should not restrict an instructor from trying to incorporate all or parts of these services into his already structured program. They will entail extra work and planning, but can be accomplished.

To facilitate the addition of these services, the mobility instructor should avoid instruction in areas that are not pertinent to mobility or that are overlapping with other services. Some areas to be avoided when setting up and running a mobility program are as follows:

1. In some cases the mobility personnel bog themselves down in teaching techniques that can be better handled by instructors of other subject areas. An example of this can be summed up in the following statement: "At one time mobility instructors were responsible for the teaching of daily living skills. Today's mobility instructors should not have or accept this responsibility. They should, however, be knowledgeable of it so that they can on occasions show a client how to light a cigarette or help a client in a restaurant situation where the client and instructor might be following a mobility lesson. The instructor should be competent enough to show the client how to put cream and sugar in his coffee, etc." (Suterko)

Another example of a technique that is better handled by other staff members would be tooth brushing skill, the teaching of which is better left to the rehabilitation teacher or

occupational therapist. If a mobility instructor allows himself to become too involved in the teaching of these types of personal grooming and social skills, he will find that he is not teaching mobility.

2. If the mobility instructor finds that he is only able to work with his clients one or two occasions per week, he will find that the mobility program not only becomes a long drawn-out process, but also that the results are not nearly as positive as they would be if the clients could receive training five times per week. "This type of situation can be avoided by good in service training and by working closely with the administration, showing them that there are definite advantages in scheduling lessons five times a week versus the disadvantages of two lessons a week." (Bohman)

3. Many mobility instructors have a tendency to isolate themselves from the other members of their staff because of their particular biases to mobility. They feel that their particular field "is the be-all and end-all of blind rehabilitation." (Ziff) These instructors fail to realize that rehabilitation is a team approach – that "you can teach a person to travel, but unless they have a place to travel to, you as an instructor have wasted your time." (Ziff)

It must be remembered that it is the counselor, the industrial arts teacher, the occupational therapist, and the daily living skills teacher who provide the client with the techniques of independent living and make possible job placement, not the mobility instructor. To feel that any one of these areas is superior or more necessary than the other is a cardinal sin and an injustice to the rehabilitation program and the client.

4. An important consideration to be avoided is related to the previous discussion of the establishment of a low vision section in the mobility program. Unfortunately, many of the better programs and the better instructors are still advocating the blanket use of the blindfold when working with low vision clients in mobility. "This is partially true because a totally blind person is easier to train than a partially sighted person. This idea or philosophy is a reflection on the type of training that instructors are receiving today." (Weessies)

If possible, instructors should avoid this stumbling block, as they will find that once the blindfold has been removed the client will go right on using his remaining vision. No way to prevent the partially sighted client from using his vision when he is alone and not wearing the blindfold has been developed to date. Instructors are also beginning to discover that this type of training does not necessarily give the client the "big plus" when the blindfold is removed, as was once believed. Training the client in the use of his remaining vision concurrently with training him in the techniques of mobility has proven to be the best manner to enhance his travel ability.

5. "One final area to avoid, though in many cases the new mobility instructor will have little say in the matter, is that of entering employment where one's direct supervisory personnel know little or nothing about the techniques, requirements or idiosyncrasies involved in a mobility program, and worse yet, are unbending in their acceptance of present day techniques being taught the mobility student. (The reason I say that the new mobility instructor may have little say in the matter is due to the fact that he may not be familiar with the supervisory personnel until after he has been employed.) Where such a situation does arise, the mobility specialist must work to provide a good in service educational program to be offered to the supervisory personnel and strive for cooperation. If the mobility specialist is not successful in his efforts, that is to the degree that lack of cooperation interferes with accomplishing the objectives he has set regarding his program, then it might become necessary for him to direct his efforts elsewhere, where his time will more benefit clients. Mobility specialists are scarce, not their jobs." (Aust)

An attempt must be made to avoid these five potential problems in order to provide a smoother running mobility program and a strengthening of the rehabilitation program in toto. The maxims to follow in reaching these goals are good attitude and cautious approach.

III. Composition of a Complete Mobility Program

When discussing a complete orientation and mobility program, many diverse views are brought into play. One individual will feel that such-and-such is necessary, while another may disagree with that individual's feelings. No matter how certain individuals react to the inclusion or exclusion of certain points presented in a "complete" mobility program, the main factor to remember is that the program should be designed to present the best possible training for the individual clients. As long as the clients that are being turned out are the type of travelers that reflect training in a good and complete mobility program, the areas covered in the program are only of secondary concern.

Necessary, though often neglected, is a program that would involve the family, employer and close friends of the client. These individuals then become more aware of what the client is going through in his training and just what he can and should be expected to accomplish on his own once the services of the center have been terminated. A program such as this can be structured in a similar manner to in service training with the regular professional staff. This type of program will help the client, as it will inform the family of what techniques should be used in certain situations and of services to increase the amount of reinforcement the family will give for the use of good techniques at the proper time. This type of family training program can be held in the evenings with groups of wives, husbands, etc., meeting separately or together. It is a well-known fact that in order to get a client or a student to use his best mobility techniques at home, he must have the support of his family. This type of program is an excellent method to bring the family together in helping the rehabilitation process.

"Also of great importance in the makeup of a good mobility program is the inclusion of some form of follow-up program, as there is a gap that needs to be bridged between what the student can do and what he thinks he can do." (Weessies) Oftentimes the student will leave the mobility program knowing that in X city he is able to travel in an independent manner, but will be unsure of his ability to travel in his own home town. An instructor should then follow the student into his own home area and familiarize him with any parts of it that might present problems. "The major drawback in developing this type of program is the high cost of funding. Sending an instructor to the home costs the center the wages of the instructor, his transportation and his living expenses." (Glatz) Unfortunately most states and training programs are not as yet able to fund this type of program.

In summary, a "complete" orientation and mobility program must include those areas covered in Section I of this presentation along with a good initial evaluation process, lessons on concept development, a family training program on the order of in service training, and a follow-up program.

It is necessary when discussing a complete program to consider just how much of the program can realistically be accomplished in the first year. Certainly it can be seen that a complete mobility program entails more than can be accomplished in just one year, but obviously some of the parts must be instituted during the first year in order to have some type of viable program with potential for growth.

The following is a list of suggested goals for which to strive in order to achieve successful development of a complete program:

1. Good lesson plans that give good training and produce good travelers. (Suterko)
2. Knowledge of the basic skills and awareness of what is involved in a mobility program. (*Ibid.*)

3. The development of a good working relationship with the entire center staff, possibly even changing the ideas of some of the older staff members. (*Ibid.*)

4. The best possible training provided to the students. (Glatz)

5. The discovery of your own weaknesses and limitations. (Maywalt)

6. Proving the worth of your program to the staff, administration, and yourself. (Hall)

7. Having your students realize their potentials and their limitations by presenting things positively, not negatively. (Maywalt and Glatz)

8. Know the workings of your center. (Weessies)

9. Know the community that you are working in. (*Ibid.*)

10. A review of the program, lesson plans, etc., and possible rewriting of these areas if necessary.

"The first year must be approached as a cruise ship's first voyage is, as a shakedown with revisions and changes wherever they are found to be necessary." (Hall) These continual changes and revisions will help to strengthen the program, enrich the instructor in his knowledge, and help him to direct the program to the goals that he has projected.

Directing a program towards specific goals is an important consideration, one that can oftentimes be overlooked. The goals that an instructor sets for himself and his program must be in writing. He must be willing to change these goals every time he makes changes within his program. The question arises, though, as to what are mobility's goals. Most individuals will agree that to provide the best instruction and to see that the students trained in the program are as independent as possible within their own abilities is the foremost goal. Suterko summed up the goals this way:

> Your mobility goals should be consistent with the clients that you are working with. If the client is energetic and competent, then the goals should be that you provide him with the techniques that will afford him independence. However, if the client you are working with is slow or multiply handicapped, then you will have to readjust your goals to fit the needs of this individual. Even if these goals are only to make the client mobile around his own home, they are functional. The client must be as sophisticated as possible within his own limitations when he leaves your program.

This statement of Suterko's can and should be expanded to include those individuals who are elderly, very young, or those having emotional problems at the time they are assimilating training. The goals for every individual must be adjusted to fit the particular needs and abilities of the client.

Keeping the uniqueness of the client in mind at all times will help to provide a program that will have as its primary objective the best possible training for each individual client, leading to varying degrees of independence among clients.

IV. Conclusion

The preceding dealt with a variety of subjects, all of which contribute to the development of a good mobility program. These guidelines have been geared primarily for those instructors about to set up their first mobility program in a rehabilitation setting. Consideration has been given to specific areas of need and areas of priority in the development of a new program. Also mentioned were specific problems that instructors have encountered in setting up these areas. There has been discussion of specific areas that should or should not be included in a mobility program and areas necessary or superfluous. Finally included are the characteristics of a good mobility program, what an instructor can expect to accomplish by the end of the first year, and a discussion of the

overriding goals of mobility. None of the separate sections can be considered individually, as there is much overlap among these areas.

Over and above the knowledge and theory that goes into the physical setting up of a program is a good mental attitude. This attitude reflects itself in all areas and aspects of mobility. It was clearly expressed in the questionnaires and interviews of experienced mobility personnel that individual attitudes can make or break the initial successes of a new program. The following feelings were expressed on the subject of good attitudes:

> There is just no substitute for being well-prepared, well-organized, paying attention to fundamentals and/or basic skills, having objectives toward which to work and setting realistic goals; planning ahead so as to be in a better position to be able to anticipate probable areas of difficulty, being sensitive and empathetic toward feelings, attitudes, and concerns of others, and being honest in evaluating your progress, your program and yourself. (Farmer)

> If you go into the center situation with a questioning attitude and are diplomatic with the rest of the staff, then you are off to a good start with your program. (Glatz)

> Work as much as possible in a loose structure and be prepared to modify each technique in more than one way. Remember that your purpose is to make the client safe, independent, capable, efficient and competent in his environment. (Maywalt)

> Enter the position with an open mind. (Manuele)

If a mobility specialist enters a new program remembering the suggestions presented, he is very likely to avoid making mistakes. These suggestions and recommendations can, by no means, help the new instructor to avoid all problems, but they should help him to avoid enough so that he can set up his program and gain the experience to deal with the problems that occur.

As can be seen from the statements of those participating in the taped interview sessions and questionnaires, the primary ingredient in establishing a program is not the skills and knowledge that the individual possesses, but rather his personality – the manner in which he deals with others and presents himself in new situations. This cannot be stressed enough, for in too many cases (not only in mobility) it is not the "know-it-all" who succeeds, but rather the learner. He is the one who wants to continually learn, is willing to go to others for help and present himself in a positive manner without dominating others. This type of individual will find himself at ease in all situations. He will find the rigors of establishing a new mobility program both exciting and challenging and will likely succeed in producing quality mobility services.

REFERENCES

1. Aust, Adrienne, former Orientation and Mobility Specialist, presently a homemaker and mother, 49 East Bell Meadow, Chagrin Falls, Ohio.

2. Bohman, Richard V., Orientation and Mobility Specialist, Wisconsin School for the Blind, Janesville, Wisconsin.

3. Farmer, Leicester W., Orientation and Mobility and Research Specialist, Central Rehabilitation Section for the Visually Impaired and Blinded Veterans, Veterans' Administration Hospital, Hines, Illinois.

4. Glatz, Paul F., Educational Director, Michigan Rehabilitation Center for the Blind, 1541 Oakland Drive, Kalamazoo, Michigan.

5. Hall, Robert S., Blind Orientation Instructor, Michigan Rehabilitation Center for the Blind, 1541 Oakland Drive, Kalamazoo, Michigan.

6. Malamazian, John, Chief, Central Rehabilitation Section for the Visually Impaired and Blinded Veterans, Veterans' Administration Hospital, Hines, Illinois.

7. Manuele, Tony, Social Services Staff Specialist I, Division of Vocational Rehabilitation for the Blind, 100 West 7th Avenue, Denver, Colorado.

8. Maywalt, David H., Orientation and Mobility Specialist, Tacoma Public Schools Visually Handicapped Department, Tacoma, Washington.

9. Sauerburger, Donna, Specialist in Orientation and Mobility, 4227 Coleridge Street, Pittsburgh, Pennsylvania.

10. Suterko, Stanley, Assistant Director, Institute of Blind Rehabilitation, Western Michigan University, Kalamazoo, Michigan.

11. Vanderveer, Lowell W., Orientation and Mobility Specialist, Elkhart Rehabilitation Center, 702 Williams Street, Elkhart, Indiana.

12. Weessies, Marvin J., Instructor, Institute of Blind Rehabilitation, Western Michigan University, Kalamazoo, Michigan.

13. Ziff, David B., Orientation and Mobility Specialist, Community Services for the Visually Handicapped, Room 1700, 160 North LaSalle, Chicago, Illinois.

U.S. GOVERNMENT SPONSORED RESEARCH TO STUDY BLINDNESS–1972 SUPPLEMENT SOCIAL AND REHABILITATION SERVICE

Introduction

The U.S. Government sponsored research to study blindness which was funded in the middle of this century exemplifies very fully the multiple human problems posed by blindness and the multiple sciences and skills which can be invoked to deal with these problems. This may be readily seen from the yearly listings of research and demonstration projects of the Department of Health, Education and Welfare published in each edition of BLINDNESS. Some of the products of the Social and Rehabilitation Service research and demonstration projects have been:

1. A national survey of personnel in work with the blind which was the foundation for other research in this area;
2. A seven volume study of the deaf-blind, out of which ensued a new interest in this group of handicapped people, and ultimately legislation in their behalf;
3. Thirty research and demonstration optical aids clinics for the low visioned;
4. A haptic intelligence scale for the adult blind;
5. "Beauty for the Sighted and the Blind," a widely circulated book from which came projects which initiated new policies in museums with respect to blind visitors;
6. A manual on the use of recorded textbooks;
7. An international survey and analysis of techniques designed for the education, rehabilitation and personal aid of the blind under the direction of Jerome Wiesener, resulting in a four volume report, authoritative in numerous branches of basic research;
8. An architectural manual on centers for the blind, entitled "The Blind: Space Needs for Rehabilitation" by F. Cuthbert Salmon (used in the building of centers funded by the Vocational Rehabilitation Act);
9. A catalog of basic source material in work for the blind;
10. Sponsorship of the 1964 General Assembly of the World Council for the Welfare of the Blind;
11. Development of a training program for the blind in professional computer work;
12. Thirty research and demonstration projects in orientation and mobility by which trained instructors were placed in communities to serve the blind;
13. Development of a pre-college orientation course for blind high school students;

14. The Stanford Ohwahki-kohs tactile block-design intelligence test for the blind;
15. A study of the adaptation of the Randolph-Sheppard vending stand program to the advances of automation;
16. The Nemeth code of braille mathematics and scientific notation;
17. "The Comstac Report: Standards for Strengthened Services in Work for the Blind";
18. A study of postural determinants and mobility rehabilitation of the blind under the auspices of physical therapy;
19. The Mary Duke Biddle Art Gallery for the Blind in Raleigh, North Carolina;
20. A study leading to the employment of the blind as tax assistors for the Internal Revenue Service;
21. A braille dictionary for medical dictaphone transcribers;
22. A study leading to the training and placement of blind persons in service jobs in hospitals;
23. Special training in the Russian language of a group of blind students to acquire competence in transcribing and translating recorded materials.

There have been more than two hundred such projects from which the above have been selected to exemplify the range of skills which may be brought into the work of overcoming the handicap of blindness.

The importance of classifying and clarifying such diffuse data is self-evident. Broad general classification has been attempted in four major interest categories as the projects have been listed through the years in BLINDNESS. These are vocational, prevocational, equipment and personnel. Under prevocational four subgroups have been listed: optical aids, mobility, testing and "processes," this last to include various conditioning régimes or methods to prepare rehabilitants for employment.

It has been obvious that abstracts would also be helpful instruments for making the results of projects useful, but hitherto an objective system for abstracting has not been available. Final and special reports from all Social and Rehabilitation Service research and demonstration projects are now being abstracted and indexed toward an eventual information system. Although portions of the system (including 1,000 abstracts and a corresponding index) were field tested during 1971, the complete system is not yet ready for formal use. However, abstracts concerning blindness are being collected, and certain of these can be obtained by contacting the Office for the Blind and Visually Handicapped, RSA, HEW, Washington, D.C. 20201.

In addition, full final reports from SRS research projects are being entered into the National Technical Information Service (NTIS), U.S. Department of Commerce, Springfield, Virginia 22151. Most of these reports (except for the newest ones) should be available for purchase from NTIS by September 1972, and many are available now. Price per copy depends on length and recency of the report. Copies in microfilm are available for 95¢ each. Research reports are no longer stocked by the Social and Rehabilitation Service.

Questions on the Research and Demonstration Information System and availability of reports from NTIS should be addressed to Mr. George A. Engstrom, Chief, Research Utilization Branch, Room 5033, South Building, HEW, Washington, D.C. 20201.

Eight abstracts of projects have been selected for inclusion in this year's annual and appear after this year's listing of grants.

SOCIAL AND REHABILITATION SERVICE PROJECTS CURRENTLY SUPPORTED*

RD-2480 New Number 12-P-55003
Title of Project: Regional Facility – Psychiatric Service for the Blind
Grantee: Catholic Guild for All the Blind
770 Centre Street
Newton, Massachusetts 02158
Cost: $36,000

RD-3450 New Number 14-P-55016
Title of Project: Development & Demonstration of Communication Systems for the Blind and Visually Impaired
Grantee: Sensory Aids Evaluation & Development Center
Massachusetts Institute of Technology
Cambridge, Massachusetts 02142
Cost: $70,000

RD-2406 New Number 14-P-55034
Title of Project: Strengthening Services for the Visually Handicapped Through the Application of Standards
Grantee: National Accreditation Council for Agencies Serving the Blind and Visually Handicapped
79 Madison Avenue
New York, New York 10016
Cost: $100,000

RD-2868 New Number 14-P-55157
Title of Project: Development and Operation of Mary Duke Biddle Gallery for the Blind
Grantee: North Carolina Museum of Art
Raleigh, North Carolina 27601
Cost: $23,750

RD-3512 New Number 14-P-55186
Title of Project: Evaluation of the Ultrasonic Binaural Sensor in Rehabilitation of the Blind
Grantee: Department of Children and Family Services
404 New State Office Building
401 South Spring Street
Springfield, Illinois 62706
Cost: $10,000

RD-3511 New Number 14-P-55199
Title of Project: Evaluation of the Ultrasonic Binaural Sensor in Rehabilitation of the Blind

*All are continuations which have been previously listed in BLINDNESS.

Grantee: Western Michigan University
Kalamazoo, Michigan 49001

Cost: $10,000

RD-3529 New Number 14-P-55220
Title of Project: Evaluation of the Ultrasonic Binaural Sensor in Rehabilitation of the Blind

Grantee: Arkansas Enterprises for the Blind
2811 Fair Park Boulevard
Little Rock, Arkansas 72204

Cost: $25,000

RD-3422 New Number 14-P-55237
Title of Project: Effect of Photocoagulation on Diabetic Retinopathy in Rehabilitation of the Blind

Grantee: Southwest Eye Foundation
Medical Center Professional Building, Suite 800
6436 Fannin
Houston, Texas 77025

Cost: $35,000

RD-3109 New Number 14-P-55282
Title of Project: Tactile Television System

Grantee: Institute of Medical Sciences
Clay and Webster Streets
San Francisco, California 94115

Cost: $85,000

RD-3206 New Number 14-P-55285
Title of Project: T. V. Systems Which Aid the Visually Handicapped

Grantee: The Rand Corporation
1700 Main Street
Santa Monica, California 90406

Cost: $70,000

FINAL REPORTS OF SOCIAL AND REHABILITATION SERVICE PROJECTS NOT PREVIOUSLY LISTED IN BLINDNESS ANNUALS

RD-1787 Edward J. Meyer Memorial Hospital.
W. Yerby Jones, M.D., John V. Armenia, M.D., and Ange S. Naples, M.D. "A Demonstration of a Low Vision Clinic." Unpublished Final Report. 1971.

RD-2469 North Carolina Museum of Art.
Charles W. Stanford, Jr. "Planning Operation of Mary Duke Biddle Gallery for the Blind." Unpublished Final Report. 1968.

RD-2603 14-P-55323 The Hadley School for the Blind.
Donald Wing Hathaway. "Orientational Conference on Dorland Braille Medical Dictionary." Unpublished Final Report. 1971. (This was the culmination of a grant which resulted in three braille publications: "Dorland's Medical Dictionary"; "Dorland's Medical Speller"; and "Physician's Drug Register.")

RD-2868 North Carolina Museum of Art.
Charles W. Stanford, Jr. "Planning and Operation of Mary Duke Biddle Gallery for the Blind." Unpublished Final Report. 1972.

14-P-55094 American Printing House for the Blind.
Cleves J. Kederis and Carson Y. Nolan. "Braille Codes Pilot Project." Unpublished Final Report. 1972.

14-P-55285 The Rand Corporation.
S. M. Genensky, H. E. Petersen, H. L. Moshin, R. W. Clewett and R. I. Yoshimura. "Advances in Closed Circuit TV Systems for the Partially Sighted." The Rand Corporation. Santa Monica, California. 1972.

ABSTRACTS OF FINAL REPORTS LISTED IN PREVIOUS ANNUALS

FINAL REPORT TITLE: Intensive Language Program for Blind Students
PROJECT NUMBER: RC-0003A
DATE OF REPORT: July 1965
PROJECT DESCRIPTION: To develop, test and report on a special program of instruction for blind students to acquire competency in transcribing and translating recorded materials in the Russian language, thus providing new employment opportunities for the blind.
PROJECT DIRECTOR: L. E. Dostert, Ph.D.
GRANTEE: Georgetown University
37th and "O" Streets, N.W.
Washington, D.C. 20007

ABSTRACT

By E. J. Manderfield

STATEMENT OF THE PROBLEM: A need existed for qualified persons to translate special languages. It had been proposed that blind persons could be trained for such jobs. The original purpose of the project was to train blind persons for translating and transcribing work. As the project progressed, it also seemed feasible to train the blind to teach special languages also. This report is one of several concerning the Special Languages Project and is an evaluation report through fiscal 1963. It contains a brief description of the origin and development of the two phases of the program.

METHODOLOGY USED: Two target languages, Russian and German, were selected. Prospective students from throughout the United States were recruited. Those found eligible were given special language aptitude tests. Candidates were tested on such things as memorization skills, ability to form sound-symbol associations, sensitivity to grammatical structure and rote memory.

The Intensive Language Program was divided into basic, intermediate and advanced courses. Basic text materials and supplementary materials were secured. The oral approach was used in presenting all aspects of the language including vocabulary building, presentation of structural elements, comprehensive skills and the fundamentals of the composition. Teaching techniques were devised to replace the use of visual aids. Every effort was made to use the sense of touch and hearing to replace visual impressions. The language laboratory was used heavily in the learning process and as a means of reviewing the material presented.

MAJOR RESULTS OBTAINED: At the time the evaluation report was written, ten blind persons had completed the language program of the project and were enrolled in an in service training program under direct government supervision. This program

involved an additional two-year Russian language training program for specialization in transcribing and translating.

To evaluate the achievements of the blind students, a Russian Language Proficiency Test was administered to the blind students and to sighted students who had been engaged in a similar training program for the the same length of time. After eliminating two extreme cases from the sample, there was little difference in the performance of the two groups. While the results could not be treated as conclusive evidence, the examiners felt that the loss of sight was not a serious interfering factor in the process of mastering a foreign language.

Some of the other conclusions and observations made by the project group included:

1. The special language program demanded more effort on the part of both student and instructor, and the special techniques used resulted in relatively greater tension and fatigue.
2. Although loss of sight put greater pressure on other senses and means of expression, it was found easier to teach pronunciation to the blind students and it seemed easier for them to start "thinking" in the target language.
3. It was felt that the project would yield valuable information in the field of testing, structuring special examinations and language teaching methodology.

The results already achieved indicated that blind persons could be trained to work effectively in such specialized fields as translation, transcription, interpreting and teaching.

USAGE POTENTIAL: This report was an evaluation report and not a final report and would seem to be of current value primarily as a reference. However, professionals interested in test development might enjoy Appendix I which contains Dr. R. C. Gardner's separate report, "The Development and Validation of a Language Aptitude Test for Blind Students."* The feasibility of preparing selected blind students quickly in foreign languages has implications for other employment outlets which require verbal facility and memory.

FINAL REPORT TITLE: Man-Machine Systems (Panel 1), and Plenary Session (Panel V), Volume I of *Proceedings of the International Congress on Technology and Blindness*, presided over by Jerome Wiesener

PROJECT NUMBER: RD-0634A

DATE OF REPORT: 1963

PROJECT DESCRIPTION: To gather and analyze information on technical devices used in this country and abroad designed for the education, rehabilitation and personal aid of blind persons, and to disseminate and exchange such information both nationally and internationally, and to develop methods for continuing exchange of information.

PROJECT DIRECTOR: M. Robert Barnett

GRANTEE: American Foundation for the Blind
15 West 16th Street
New York, New York 10011

ABSTRACT

By E. J. Manderfield

STATEMENT OF THE PROBLEM: A need existed to share the internal scientific advances that had been made in work for the blind and to identify and rectify gaps in knowledge and technology. Accordingly, an International Congress on Technology and Blindness was held in New York City from June 18 through

*Editorial Note: This test, designed with great rapidity for the specific purpose at hand, may well be one of the most brilliantly predictive tests so far used in rehabilitation of the blind.

June 22, 1962. As a part of the planning for the Congress it was decided that the papers and discussions of that Congress be published. This abstract covers Volume I of the four volumes published.

METHODOLOGY USED: The Congress generally followed the pattern of having a panel concerned with a specific topic subdivided into several sections so that pertinent papers could be presented in each section. The Proceedings of the Congress were written in a similar fashion and were published in four volumes as follows:

Volume I covers Panel I – "Man-Machine Systems" and Panel V – "Plenary Session."

Volume II covers Panel II – "Living Systems."

Volume III covers Panel III – "Sound Recording and Reproduction" and Panel IV – "Adapted and Special Purpose Devices."

Volume IV contains a catalog of aids and devices available from over the world.

Each volume generally follows a format in which an introduction is given, all of the papers are presented and a summary is made.

MAJOR RESULTS OBTAINED: The material concerning Panel I – "Man-Machine Systems" is preceded by an introduction and is subdivided into papers concerning the following sections:

1. Mobility and Mobility Devices;
2. Reading Machines; and
3. Indirect Access to the Printed Page.

The whole panel dealt with the relationship between man and machine. In the section on mobility and mobility devices twelve different papers were presented. Most of these papers dealt with ideas and devices to enable a person with a sensory loss to explore his environment. The mobility devices generally were of two types: active and passive. Active devices send out light, radio or sound waves and receive the reflected signals, whereas passive devices scan the environment and respond to light, radio or magnetic fields. The section on reading machines included the presentation of papers which are concerned with two types of reading machines: the direct translation type and the recognition type. The first picks up black/white information with photo-sensors and translates it into audio signals or some sort of tactile presentation without intervening complicated processing. The second identifies a printed character or other signal and somehow informs the user of what the signal or character was. Hopefully, it will tell him what syllable or word or other phoneme it read. The third section involved itself with the problem of indirect access to the printed page. The blind person's access to the printed page may consist of braille tactile inputs and aural inputs including talking books, tape recordings and listening to sighted readers. Several papers dealt with the problem of making more braille material available for the blind. Others dealt with such concepts as assisting the blind to read by a print-to-voice converter, prerecorded speech, etc. In a summary of the papers presented in this section, it was suggested that a study be made of the actual habits of reading for the blind to find out what their real requirements are. It was felt that each blind person would have a variety of different needs: fast reading for light-weight texts, slower reading for more difficult materials, etc. Therefore, it was concluded that the problem of reading had not been looked at or defined adequately. Once the real problem had been defined, then researching for answers to the problem would seem easier.

Volume I also mentions Panel V – "Plenary Session." At the Congress summary statements were presented as a part of Panel V. However, in the published version of the Proceedings these statements appear in the Introductions to Panels I through IV. Other papers reproduced and relating to Panel V are the following:

1. Demographic and Social Aspects of Blindness;
2. The Research and Demonstration Grants Program of the Office of Vocational Rehabilitation;

3. Stimulation of Research in Technology and Blindness;
4. Summary of Proceedings of the International Congress on Technology and Blindness.

USAGE POTENTIAL: This volume would interest scientists especially concerned with mobility problems of the blind and the reading problems of the blind. The material would seem to be a good base for further continued research. The technology of today could be applied to update the machines and the observations which were made at the time of the Congress. Although technical, the Proceedings could still be used as reference books for agencies for the blind. Technical writers could encourage further participation in such projects by preparing challenging articles especially directed toward scientists, engineers, etc.

FINAL REPORT TITLE: Living Systems (Panel II), Volume II of *Proceedings of the International Congress on Technology and Blindness*

MAJOR RESULTS OBTAINED: This volume, Volume II of the Proceedings, is concerned with Panel II – "Living Systems." As a part of this panel papers were presented in the following sections:

1. The Mechanisms of Seeing and the Characterization of Sight;
2. Utilization of the Remaining Sensory Channels; and
3. Correlative Research.

A summary of Panel II is contained at the end of the book. It is pointed out that our knowledge of the physics, psychology and physiology of human vision is quite inadequate for an understanding of what blindness means. This is not because of gross ignorance in any one of these fields but because of the paucity of intercommunication among them.

Some problems are presented in imitating the visual function as compensation for total blindness. The most important inference is that a pattern-recognition device is a learning device. Therefore, an artificial system for reading (for example) must, at least, provide the first steps toward learning, that is, selection and storage. Otherwise the brain will have to do these jobs but only after arduous training.

The brain functions associated with vision are so intricate and mysterious that our inadequate knowledge about this cannot be summarized. In human beings, visual signals reach almost all parts of the brain in bewildering variety and it is these diffuse projections that participate in recognizing and analysing what is seen. This fact alone makes direct brain stimulation a most unpromising approach to visual prosthesis.

The summary also touches upon the nonvisual systems considered as possible substitutes for sight, the correlation of research and the study of blind people from the neurophysiologic standpoint.

USAGE POTENTIAL: This material would seem primarily useful for reference purposes. It would seem much too technical for the average layman even though he might have a special interest in the work of the panel.

FINAL REPORT TITLE: Sound Recording and Reproduction (Panel III), Volume III of *Proceedings of the International Congress on Technology and Blindness*

MAJOR RESULTS OBTAINED: A series of papers were prepared for Panel III which was concerned with "Sound Recording and Reproduction." The participants discussed the technology and the art of sound recording and reproduction for the blind and visually impaired. Topics included the talking book and both disc and tape recording and reproduction. Both the tape talking book and the disc talking book were dealt with. Some of the most interesting observations included:

1. Disc talking books were available only in the English-speaking countries, France and Austria.

2. For countries with a relatively small number of talking book listeners, the price of the disc talking book manufacture would be too high.
3. When using magnetic tape, the difficulties increase when the number of copies is large. For small runs of copies, however, it is an excellent medium and for that reason nearly all the European countries have accepted it.
4. There exists nothing comparable to a printing press for tapes. Therefore, each copy must be recorded individually.
5. Recent experience has indicated that talking books on magnetic tape have a real future in spite of the fact that the technique is new. A variety of technical improvements is expected.
6. Many Europeans expressed the opinion that the talking book reader should have an apparatus which could record and also reproduce sound.
7. A desire was expressed for an easily held cassette system.
8. There was no consensus among the participants regarding the special adaptation of the machine to the needs of the blind, versus the minor modification of commercially available equipment.

The panel also placed emphasis on systems which were compatible with regard to talking books. In this way exchange programs could be undertaken with other countries on a world-wide basis. An international panel was recommended to study this possibility.

USAGE POTENTIAL: This portion of Volume III would now seem to be of historical interest only. Recent technological developments in the talking book program have improved the program considerably and have demonstrated the worth of meetings such as this.

FINAL REPORT TITLE: Adapted and Special Purpose Devices (Panel IV), Volume III of *Proceedings of the International Congress on Technology and Blindness*

MAJOR RESULTS OBTAINED: Panel IV was devoted to "Adapted and Special Purpose Devices." Papers pertinent to the panel were presented in the following three sections:

1. Section One – Education, Reading and Writing;
2. Section Two – Vocational Aids;
3. Section Three – Radio and Electronic Aids.

The purpose of the panel was to concentrate on those devices which could help the visually handicapped to learn, work and play in the everyday world. This panel dealt with more practical devices than did some of the other panels which were more concerned with experimental aids for the blind.

The papers presented in Section One were concerned with braille production, printing and embossing systems, as well as mathematical aids for teaching blind children. Miscellaneous educational aids, programmed instruction, teaching machines and a discussion of the abacus were some of the topics discussed in this section.

Teaching techniques as well as training aids in woodworking and metal working were discussed in Section Two. Speakers from several European countries told of their developments in vocational aids. Pictures, as well as descriptions of the aids, are incorporated in the Proceedings.

Six papers included in Section Three dealt with some aspects of radio and electronic aids for the blind. Auditory test equipment such as the Auditory Circuit Analyzer and "Transistorized Auditory Gimmick" were described.

Much of the material gathered and presented in this panel has been incorporated into Volume IV of the Proceedings. This is a catalog listing every device known to the panel. It has been estimated to contain 90 to 95% of all that is known of the adapted and special purpose devices over the world.

USAGE POTENTIAL: Such material could be utilized by agencies for the blind throughout the United States. It is easily read and could be excellent reference material. Papers such as these could also be updated, elaborated upon and directed to the blind who have special interests such as woodworkers and electronic enthusiasts. Vocational teachers, rehabilitation counselors, workshops, rehabilitation centers for the blind and schools for the blind would benefit from such material. With some modification, interesting articles could be prepared for magazines to better acquaint the public with the potentials of the blind. Similar articles could be prepared for personnel management and trade journals so that employers might read them and become interested in hiring the blind.

FINAL REPORT TITLE: The Blind: Space Needs for Rehabilitation

PROJECT NUMBER: RD-0672
DATE OF REPORT: July 1962

PROJECT DESCRIPTION: To prepare architectural guides and criteria for the design of rehabilitation centers for the blind.

PROJECT DIRECTOR: F. Cuthbert Salmon

GRANTEE: Oklahoma State University
College of Engineering
Stillwater, Oklahoma 74074

ABSTRACT

By E. J. Manderfield

STATEMENT OF THE PROBLEM: In the rehabilitation of the blind, it had been found that a client's attendance at a special rehabilitation center for the blind was especially helpful. Both architects and administrators who wished to build centers needed basic information for cooperative planning. The project aimed to provide such information.

METHODOLOGY USED: The project staff visited 14 United States rehabilitation centers and institutions for blind persons. A technique of systematic observation was used in each instance.

Programs were analyzed, discussions were held with personnel concerned with the rehabilitation of blind persons and selected literature was reviewed.

As a part of the project's planning, a book was to be prepared which would assist in the designing of a center for clients with the single disability of blindness, including both the totally blind and those with severe visual problems.

MAJOR RESULTS OBTAINED: An easy-to-read book was published covering the points which both architects and workers for the blind need to know in common, in order to create a rehabilitation center for blind people. Part I covers "Environmental Considerations" in which the architectural considerations are of a general nature.

The items considered are:

1. geographical location;
2. community features;
3. site considerations;
4. program development;
5. planning principles; and
6. environmental experience.

In this portion of the text, the pervading aspects of planning are familiar to architects. However, they are presented to show other professional workers advantages obtained by thinking in terms of the total design of the center.

A blind person receives many cues from his environment. In a rehabilitation center, the blind person is taught how to recognize those cues in order that he travel

independently. In planning for a rehabilitation center therefore, the environmental considerations are especially important.

Part II covers "Areas of Activities" in which are found design fundamentals of the specific spaces needed to carry out the rehabilitation program. In this section, architects are provided with the information necessary to understand the basic purposes and functions of rehabilitation centers for the blind. The areas of activity of such centers are usually classified under the headings of medical, psychological and social, mobility and orientation, physical conditioning, communications, occupational therapy, techniques of daily living, vocational evaluation, recreation and administration. The book describes the work of each activity, the purpose for the activity, the personnel involved and the suggested space requirements for each. Specialized aspects of a rehabilitation center for the blind are emphasized rather than architectural data which are available in standard publications.

USAGE POTENTIAL: The book was aimed to assist architects and administrators who have responsibilities for building centers for the rehabilitation of blind people. Both of these groups could still benefit from this material although it would need to be supplemented to include current program emphasis. These two groups would seem to be the ones who would be most interested in and assisted by the book. It might be used by the administrator of such a center when explaining its construction to legislators, budget personnel, businessmen and the press. The explanations and diagrams would seem uniquely helpful for such a purpose.

The material may also be of interest to personnel who work in centers for the blind so that they might know the architectural considerations involved in building such centers. Instructional staff in schools for the blind and rehabilitation counselors would find this material interesting.

FINAL REPORT TITLE: Low-Vision Clinic PROJECT NUMBER: RD-0701

PROJECT DESCRIPTION: To provide assistance to persons with low visual acuity or currently classified as blind in order to increase their opportunity for employment. DATE OF REPORT: May 1967

PROJECT DIRECTOR: Richard E. Hoover, M.D.

GRANTEE: Presbyterian Eye, Ear and Throat Charity Hospital
1017 East Baltimore Street
Baltimore, Maryland 21202

ABSTRACT

By S. A. Wesbury

STATEMENT OF THE PROBLEM: A need existed for an optical aids clinic to serve the Baltimore area. It was thought that techniques and devices were available for use by blind or near-blind persons that might enhance their employability and provide benefit to themselves and their community. The primary objective of the project was to apply properly the knowledge, methods and techniques that were emerging for improving the residual visual acuity and efficiency of the visually handicapped person.

METHODOLOGY USED: A low-vision clinic was established at the Presbyterian Eye, Ear and Throat Charity Hospital. Clients were referred from many sources, such as private practitioners, hospitals, clinics, social agencies, offices of vocational rehabilitation, the Maryland Society for the Prevention of Blindness, Maryland Workshop for the Blind and the Maryland School for the Blind. Clients included those who were both legally blind and those with visual loss who were hindered by such loss in the performance of their vocation or in their normal affairs.

All patients were examined in order to validate the referring diagnosis. In addition, a psychological examination was conducted to assess client motivation and desire for improvement. A comprehensive examination of the client's visual acuity was then conducted. Tests were made with and without correction, including external ophthalmoscopic examination, a keratometric reading and a static retinoscope exam. Following this portion of the examination, an intensive subjective test was initiated. At this point many corrective devices were introduced to the patient and led to the prescribing of a device or devices to improve visual acuity. Follow-up visits were scheduled.

A rather extensive public relations program was conducted throughout Baltimore to alert the public to the clinic's existence and to create additional general interest in visual problems.

MAJOR RESULTS OBTAINED: Professional persons in the field (e.g., ophthalmologists and optometrists) expressed interest in the program. Many visited the clinic to observe activities and it became apparent that these professionals started to utilize some of the same techniques and corrective devices in their own practices. In addition, the public was made more aware of the possibility of sight improvement and community service clubs were stimulated to support the project.

A total of 321 patients with subnormal vision were examined. 51.3% of these patients were male and 48.7% female, and almost half in the 61 to 80-year-old age group. Of the group, 247 individuals (77%) were benefited in some way with various optical aids available. Many of the remaining non-benefited group were already adequately corrected with their present glasses and could be improved no further.

USAGE POTENTIAL: The development of a new definition of blindness is encouraged by this project. The success reported on improvement of the sight of "blind" persons supports this need. Also, the need exists to develop standardized visual acuity testing cards for distance and near testing.

Researchers in the field of optical devices can gain many ideas for projects from the results of this study. Several potential projects are suggested. Suggestions for improved testing equipment are also offered.

Finally, the success achieved in this project should encourage other practitioners and institutions to institute a similar service for clients heretofore considered helpless.

FINAL REPORT TITLE: Development of a Solution to the Problem of Preserving and Circulating Literature Concerning Blindness

PROJECT NUMBER: RD-0869

DATE OF REPORT: November 1964

PROJECT DESCRIPTION: To develop a complete bibliographic reference of selected 19th century literature relevant to the vocational rehabilitation of the blind.

PROJECT DIRECTOR: Miss Isabella S. Diamond

GRANTEE: American Association of Workers for the Blind, Inc.
1511 K Street, N.W.
Washington, D. C. 20005

ABSTRACT

By E. J. Manderfield

STATEMENT OF THE PROBLEM: This project had as its purpose the development of a method for locating published material on blindness for use by workers in all types of service to the blind.

METHODOLOGY USED: A card catalog similar to a library's card catalog was compiled, which listed all available publications about blindness and about services and

facilities for the blind in the United States and over fifty other countries. The project provided for the periodic addition of supplements to the list four times a year to keep it current.

MAJOR RESULTS OBTAINED: A 4,500-card catalog with 11 major sections and 280 minor sections was compiled, together with a 1,500-item index to authors and subjects. The catalog, costing $70, is packaged in eight convenient boxes, and the material listed in the catalog includes all available publications on the subject of blindness. Copies of the catalog have been placed in all but eight states and in Australia, Canada, England, Denmark, Germany and Sweden.

USAGE POTENTIAL: The catalog developed by this study will interest students and others concerned with research, education, rehabilitation and services for the blind, as well as agencies which wish to begin their own libraries without the assistance of a trained librarian. It provides a basic tool for retrieving the special literature on services to the blind and may suggest a model for other specialized rehabilitation literature.

FINAL REPORT TITLE: Manual for the Haptic Intelligence Scale for Adult Blind

PROJECT NUMBER: RD-1412

DATE OF REPORT: 1964

PROJECT DESCRIPTION: To produce test kits of the Haptic Intelligence Scale for Adult Blind, with manuals and record forms, for distribution to schools and organizations serving the blind.

PROJECT DIRECTOR: Harriett C. Shurrager, Ph.D.

GRANTEE: Illinois Institute of Technology
P. O. Box 14, Technology Center
Chicago, Illinois 60611

ABSTRACT

By E. J. Bourque

STATEMENT OF THE PROBLEM: To meet the need for an improved measure of global intelligence in the totally blind, the Shurragers devised, standardized and evaluated a performance test. Tasks and scoring roughly parallel those of the performance subtests of the Wechsler Adult Intelligence Scale, so as to permit combining WAIS Verbal Scale Scores with those of the Haptic Intelligence Scale. Technical aspects of the test and a manual of directions for administration and scoring were published.

METHODOLOGY USED: Starting with an earlier version of a nonverbal performance test developed and published in 1956, the Shurragers devised a research battery comprised of seven tasks: Digit Symbol, Object Assembly, Block Design, Plan of Search, Object Completion, Pattern Board and Bead Arithmetic. Item analysis, reliability, validation and factor analysis studies were conducted. The results indicated that the Plan of Search test modeled after the "Ball and Field" test of the Standford-Binet did not contribute to the battery's validity; hence it was dropped and the final version of the HIS contains six subtests.

Stratified by age, region, race and urban-rural residence, a sample of 900 subjects was selected for standardization procedures. Ages ranged from 16 to 64. Two hundred subjects in each of the 20 to 24 and 25 to 34-year-old age groups were tested with 100 subjects in each of the other age groups. The basic population was considered to be those individuals in the continental U.S. between 16 and 64 who have vision not exceeding 5/200 central visual acuity in the better eye with correction. Subjects were selected from the files of cooperating agencies for the blind. Experienced testers were chosen and trained. The WAIS Verbal Scale and the

HIS were administered. The normative sample was analyzed in terms of WAIS Verbal Scale scores, geographic region, education, occupation, age at onset of blindness and cause of blindness.

To derive a system of scaling, scores of the 20 to 24-year-old group were used as a reference with transformations based upon a mean scaled score of 10 and a standard deviation of 3. Then, the scale scores for each age group were found and transformed into IQ's, each age group average being set at IQ 100 with a standard deviation of 15. This follows Wechsler's procedure for scoring and permits comparing each subject with members of his age group in deriving the IQ.

Test-retest reliabilities were derived using 136 subjects from the south and 116 from the north-central areas. Six months elapsed between testing. Rehability coefficients for the six subtests ranged from .70 to .81. Standard errors of measurement ranged from 1.66 to 2.30. Odd-even reliabilities were derived, too, yielding somewhat higher coefficients than the test-retest procedure.

A matrix of intercorrelations between WAIS, HIS and total IQ scores was calculated. Results indicated that the underlying factors which contribute to test performance of the blind are different from those which affect the sighted. High intercorrelations between subtest scores were found among the blind suggesting the presence of a single, underlying factor.

Explicit printed instructions for administration and scoring were published. These include diagrams, tables of time limits, scoring tables and IQ conversions. Contractual arrangements with a manufacturer were promulgated and test kits mass produced for general use.

MAJOR RESULTS OBTAINED: A nonverbal performance intelligence test has been developed, standardized and evaluated under technical conditions prescribed by the American Psychological Association. The Haptic Intelligence Scale roughly parallels the tasks of the Performance Scale of the Wechsler Adult Intelligence Scale. The HIS Total Score correlated .65 with the WAIS Verbal Score. It cannot necessarily be inferred that the HIS measures the same intellectual factors as does the WAIS Performance Scale. However, one can reasonably assume they do measure similar traits to some extent, largely because of the logical similarity of the tasks.

Test materials, technical manual and test manual are available from Psychological Research, Box 14, Technology Center, Chicago, Illinois 60616.

USAGE POTENTIAL: The HIS is a valuable tool for properly trained psychologists and rehabilitation counselors working with the blind. When used with the Verbal Scale of the WAIS, it provides a broader based intelligence measure than others previously developed.

Some evidence that the intellectual functions of the blind are uniquely different from those of the sighted was found in the test evaluation procedures. This suggests a fruitful area for further research into the aptitudes and abilities of the blind.

FINAL REPORT TITLE: A Planning Study for Orientation and Mobility Instruction in the Schools of Los Angeles County

PROJECT NUMBER: RD-1406
DATE OF REPORT: September 1965

PROJECT DESCRIPTION: A planning grant to survey the needs for mobility instruction in Los Angeles County and to develop a master plan for mobility instruction in the public schools of that area.

PROJECT DIRECTORS: F. E. Lord, Ph.D., and Lawrence Blaha*

GRANTEE: Los Angeles State College
5151 State College Drive
Los Angeles, California 90032

*For whom the AAWB Blaha Award was named following his death in 1969.

ABSTRACT

By Bobbe R. Wheeler

STATEMENT OF THE PROBLEM: The objective of the project was to develop a master plan for a complete program of mobility instruction for children and youth of Los Angeles County. To accomplish the objective, the following subsidiary objectives needed to be attained:

1. survey the needs of mobility instruction in Los Angeles County;
2. survey agencies serving blind children and youth in relation to their present and future roles in the development of a mobility instruction program;
3. provide ways of adding meaning to the planning through interpretation and demonstration of orientation and mobility instruction to the community;
4. define types and extent of services needed; and
5. define administrative problems as related to personnel needed, financial support, administrative responsibilities, program organization, etc.

METHODOLOGY USED: The project was planned to include two major phases to be carried out simultaneously. First, to investigate the need for services, information was collected from the following sources:

1. Student sample – 280 students with visual acuity 5/200 or less and all others using braille enrolled in the public schools of Los Angeles County in grades K-12.
2. Teachers of blind children – 37 teachers of the blind, including 15 who participated in the courses on orientation and mobility.
3. Parents of blind children – parents of the student sample.
4. County agencies – private agencies in Los Angeles County serving blind persons, public agencies in Los Angeles County (i.e., school districts serving student sample), Vocational Rehabilitation Administration services and public welfare agencies.

Three instruments were designed to gather pertinent data relative to the objectives of the project:

1. Student Data Sheet – developed to provide background data such as medical history, academic standing, test data, physical characteristics and aptitude for orientation and mobility training. The information was to be provided by special teachers of the blind students.
2. Parent Data Sheet – developed to provide information relative to the knowledge possessed by their child of his home neighborhood, the travel practices and skills of the child and the reactions of the parents to orientation and mobility training.
3. Private and Public Agency Visitation Form – devised to collect data pertinent to the operation of the agency, its interest in orientation and mobility and possible role in administration and financing of a countywide program. The form was made slightly different for use with public schools.

Second, the planning grant included provisions for pilot demonstrations of mobility instruction and also plans to interpret the new service to the community. These aspects of the grant were considered to be essential in order to develop an awareness of needs and an understanding of the basic principles underlying instruction. The operating plans included the following advantages relating to this major objective:

1. demonstration of the value of intensive instruction with six subjects;
2. instruction of teachers of the blind in orientation and mobility principles so that they may assist in development of basic travel skills; and
3. presentations of the project and concepts of orientation and mobility to representative community groups, including parents.

MAJOR RESULTS OBTAINED: Enrollment projections indicated a gradual increase in the training load (i.e., 317 in 1969 as compared to 293 in 1965, including grades

K-12 and post high school graduates, age 21 and under). The widespread geographical location of students revealed the need to plan for cooperative sharing of orientation and mobility personnel. This would involve problems of scheduling as well as financial arrangements between districts and attention to reduction of travel expense. A large proportion of blind children and youth (53.5%) are being served in cooperative, resource and integrated programs, thus emphasizing demands on students' ability to travel independently. Orientation and mobility training must include the development of meaningful concepts of the environment since 73% of the population were congenitally blind or lost sight prior to the age of 5. Parents' opinions indicated that many age groups lack important basic understandings such as compass points and basic directions. Parents expressed strong interest in the use of the cane for children. Parents and children seemed to have positive attitudes toward orientation and mobility instruction. The survey of private agencies revealed strong support for a comprehensive training program. The public schools were very cooperative with the project. It was determined that further understanding, experience and study are necessary before problems of personnel, finance, scheduling and related difficulties can be dealt with realistically.

USAGE POTENTIAL: The role of public and private agencies in the community should be defined more precisely in relation to both service and financial support. Realizing the importance of orientation and mobility instruction to future employment of blind persons, State Vocational Rehabilitation Agencies should consider financial support at least to individuals at the secondary level or post high school level (21 and under). Also, cooperation in sponsoring summer follow-up for potential rehabilitation clients should be investigated. This would seem to be an important service in prevocational planning and personal adjustment training.

FINAL REPORT TITLE: Taxpayer Assistor Demonstration Training (Final Report)

PROJECT NUMBER: RD-2489

DATE OF REPORT: March 1968

PROJECT DESCRIPTION: A pilot project to test the feasibility of training blind individuals to function as tax assistors.

PROJECT DIRECTOR: J. O. Murphy

GRANTEE: Arkansas Enterprises for the Blind, Inc.
Rehabilitation Facility for the Blind
2811 Fair Park Boulevard
Little Rock, Arkansas 72204

ABSTRACT

By E. J. Manderfield

STATEMENT OF THE PROBLEM: Efforts had continually been made to find new fields of employment for blind persons. It had been suggested that the job of Taxpayer-Assistor might be one that properly trained blind individuals could perform. The purpose of the project was to determine the feasibility of preparing blind persons for this specific employment opportunity.

METHODOLOGY USED: A 12-member advisory committee was formed to assist the project director who called upon every known resource for ideas. Consultation and assistance were secured from the Internal Revenue Service. The general procedure agreed upon was to be one of curriculum construction, adaptation of teaching techniques, adaptation of materials, technical adaptations and academic instruction. Criteria for selection and evaluation screening of trainees were agreed upon and publicity was initiated to promote referrals. Criteria for selection of candidates included:

1. age 21 and over;
2. legal blindness and a physical capacity to permit 8 hours work each day;
3. capable of independent living and a personality capable of meeting and dealing courteously with controversial questions in person or on the telephone;
4. high school education or equivalency with month to month substitution of certain related business experience;
5. mental ability level of high average or above; and
6. competent communication skills in handwriting and/or braille and typewriting.

A tentative timetable provided for a referral period of 15 days and an academic training period of 45 days before beginning job experience. An evaluation team was established. The evaluation indicated the levels of performance in the skills needed by a blind person to discharge the duties of the job. The original project was planned to be completed in the 6-month period from March 1, 1967 to August 30, 1967. Subsequently, the project was continued to March 30, 1968. The second phase afforded an opportunity for other states to refer candidates to the project and four states sent trainees.

MAJOR RESULTS OBTAINED: The establishment of criteria for selecting a blind person possessing the abilities for the job was a wise step in the planning stage. Skills of communication should be adequate, not marginal, at the time of screening candidates. Braille reading and production were essential skills for the job. Typewriting speed on the job was not as essential as accuracy for spelling and exact knowledge of the mechanical settings and operation of the machine. However, a typewriting speed of 40-words per minute was a minimum standard for Civil Service competitive rating. Because workers in the Internal Revenue Service were drawn from Civil Service rolls, it was felt that a candidate should be assured of this level of competency before being considered for training. A high degree of achievement in elementary mathematics was essential.

In both phases, the learning of academic materials was accomplished best by the blind persons most competent in the communicative skills of braille, typewriting and mathematics. The bias, to select partially sighted persons as candidates for this training, was believed unsound. It was felt that more dependence should be placed upon selecting persons with adequate skills though totally blind, whether congenitally or adventitiously blinded.

During the initial phase, four candidates for screening were referred and evaluated. One candidate met the criteria adequately, two met it marginally and only one was eliminated. In the second phase, four more candidates were evaluated. One met the requirements adequately, one marginally and two were accepted conditionally. Two of the best qualified trainees in the initial phase were given 700-hour temporary appointments. One trainee received a permanent appointment and it was recommended that the other trainee obtain additional training in typewriting prior to final evaluation of his abilities to meet the job requirements.

An Instruction Manual was also prepared giving an outline of the instructional material used for the academic training of the taxpayer assistors. During the project period, the Internal Revenue Service developed a positive description of the job duties and responsibilities. The position has since been redesignated as that of Tax Service Representative.

USAGE POTENTIAL: It would seem that the project adequately demonstrated that qualified blind persons can learn through competent instruction and job experience to do the work required. Currently, persons are still being trained as a result of the project's work and the project's purpose has been fulfilled. The reports would be helpful to rehabilitation counselors, prospective employers and to blind persons to know what seems essential to being trained and employed as a Tax Service Representative. The results would be of value to individuals in work for the blind who may be contemplating a similar type of program.

U.S. OFFICE OF EDUCATION RESEARCH PROGRAMS FOR VISUALLY HANDICAPPED

Bureau of Education for the Handicapped — Division of Research

PROJECT NUMBER	IDENTIFICATION DURATION AND COST	ACTIVITY ADDRESS	PRINCIPAL PERSONNEL	PURPOSE
GS-6-062679-1564	An Educational Materials Center for Handicapped Children 6/1/66 to present Total Cost: $1,338,883	Springfield, Illinois (Department of Public Instruction)	Lenore Powell Gloria Calovini	To establish a special education instructional materials center for the purpose of development and dissemination of materials to serve the educational needs of the blind and visually handicapped.
OEG-2-6-062289-1582	Instructional Materials Reference Center for the Visually Handicapped 6/1/66 to present Total Cost: $664,836	Louisville, Kentucky (American Printing House for the Blind)	Carl W. Lappin	To establish a special education instructional materials center for the purpose of development and dissemination of materials to serve the educational needs of the blind and visually handicapped.
OEG-3-6-062377-1557	An Instructional Materials Center for Children With Visual Handicaps 6/1/66 to present Total Cost: $1,252,874	East Lansing, Michigan (Michigan State University)	Lou Alonso	To establish a special education instructional materials center for the purpose of development and dissemination of materials to serve the educational needs of the blind and visually handicapped.
OEG-0-8-71254-3527	Development of Accelerated Speech as a Useful Communication Tool in Education of Blind and Other Handicapped Children 5/1/68 to present Total Cost: $198,043	Louisville, Kentucky (University of Louisville)	Emerson Foulke	To develop a national resource to supply rate controlled recorded speech and technical data to researchers and educators, to conduct technological and psychoeducational research, and to develop quality standards for time compressed or expanded recorded speech.

PROJECT NUMBER	IDENTIFICATION DURATION AND COST	ACTIVITY ADDRESS	PRINCIPAL PERSONNEL	PURPOSE
OEG-0-8-080046-2670	Aural Study Systems for the Visually Handicapped 2/1/68 to present Total Cost: $211,435	Louisville, Kentucky (American Printing House for the Bind)	Carson Y. Nolan	To determine the relative efficiency of learning through reading and listening for diverse curricula areas at both elementary and secondary school levels.
OEG-0-8-080144-4280	Compact Storage System of Information on Magnetic Tape Readable by Touch as Braille Characters by Means of Portable Reading Machine 6/6/68 to present Total Cost: $411,572	Argonne, Illinois (Argonne National Laboratory)	Arnold P. Grunwald	To fully develop the system indicated in the title, the production of corresponding tapes by computer and the development of publication formats for such tapes, and the design and construction of a perfected reading machine.
OEG-0-9-142147-3740	An Experimental Home Teaching Program for Preschool Deaf-Blind Children 6/1/69 to present Total Cost: $298,927	San Francisco California (San Francisco State College)	Philip H. Hatlen	To establish a combination preschool and home teaching program with each teacher working with deaf-blind children twice a week in a classroom and once a week in their homes.
OEC-9-3-12028-2322	Proposal to Design, Fabricate, and Evaluate a Braille Learning Aid 12/1/68 to present Total Cost: $112,455	Cambridge, Mass. (Bio-Dynamics, Inc.	Charles R. Budrose	To develop and evaluate a braille learning aid to alleviate the blind student's difficulties in mastering braille. The aid will provide immediate audio and tactile feedback on the correctness of the student's responses and will provide a look-up function for all levels of meaning of braille symbols. In

PROJECT NUMBER	IDENTIFICATION DURATION AND COST	ACTIVITY ADDRESS	PRINCIPAL PERSONNEL	PURPOSE
				addition, the user will be able to program his practice with ease to fit changing learning needs.
OEG-0-9-322108-2469	An Educational Program on Behalf of Blind Infants and Young Children 1/15/69 to present Total Cost: $217,617	Ann Arbor, Michigan (University of Michigan)	Selma Fraiberg*	To translate new information regarding the unique adaptive problems of the young child into (1) a home guidance program on behalf of the blind child; (2) a training program for teachers, social workers, psychologists and medical students who are interested in preventive mental health for the blind; (3) teaching films for colleagues in allied fields and for parents of blind children; and (4) the design of teaching materials (toys, games, etc.) to facilitate learning in the early years.
OEG-0-9-442134-2764	The Development and Evaluation of a Behavioral Examination Protocol for Structuring the Clinical Examination of Children with Severe Multiple Disabilities 2/1/69 to present Total Cost: $122,028	Syracuse, New York (Syracuse University)	W. Scott Curtis	To select and identify those conditions believed most likely to elicit behavioral samples critical in the evaluation of severely multiply disabled children; (2) to prepare video taped examples of multiply handicapped children in each of these conditions; and (3) to evaluate the

PROJECT NUMBER	IDENTIFICATION DURATION AND COST	ACTIVITY ADDRESS	PRINCIPAL PERSONNEL	PURPOSE
				extent to which such initially suggested conditions appear to yield meaningful observation samples for clinical usefulness in evaluation and educational planning.
OEG-0-9-422151-3709	Development of Standards and Evaluation Criteria for the Production of Reading Materials for the Blind and Visually Handicapped 4/1/69 to present Total Cost: $40,090	New York, New York (National Accreditation tion Council)	Ray L. Troutman	To encourage needed improvements in the production of reading materials for blind and visually handicapped students and adults by the formulation of standards and evaluation criteria by which procedures of such reading materials may measure the effectiveness of their programs.
OEG-0-9-582127-3739	Educational and Vocational Aids for the Blind 6/1/69 to present Total Cost: $58,498	Morgantown, West Virginia (West Virginia University)	In-Meei Neou	To research and develop several mechanical and electromechanical educational and vocational aids for the blind. These consist of an Electromechanical Braillewriter, Braille Duplicators for small scale reproductions and miscellaneous teaching and learning aids.
OEG-0-70-2468 (607)	Demonstration of Reader Services for Visually Handicapped Utilizing Telephone as the Medium 2/2/70 to present Total Cost: $261,574	Atlanta, Georgia (Atlanta Public Schools)	Ernest L. Bentley	(1) To demonstrate the effectiveness and efficiency of the telephone as a medium for disseminating reference information and school related general reading needs, and (2) to

PROJECT NUMBER	IDENTIFICATION DURATION AND COST	ACTIVITY ADDRESS	PRINCIPAL PERSONNEL	PURPOSE
				make available to visually impaired students those resources which are necessary for their optimum growth in academic achievement and self-image.
OEG-0-70-2651 (607)	Concrete Augmentation for Teaching Mathematics to Blind Children. 2/1/70 to present Total Cost: $8,081	San Francisco, California (San Francisco State College)	Philip H. Hatlen	(1) To test the potential usefulness of a device (concrete Augmentation Board) as an effective supplement to the elementary mathematics program for blind children; (2) to measure gains made in one academic year in mathematics understanding by children using the Board; and (3) to develop and refine tests designed to measure mathematics understanding in blind children and standardized, flexible material for presenting pictorial mathematics material to blind children in tactual form.

NATIONAL EYE INSTITUTE

The mission of the National Eye Institute is to "conduct and support research for new treatment and cures and training relating to blinding eye diseases and visual disorders, including research and training in the special health problems and requirements of the blind and in the clinical and basic sciences relating to the mechanism of the visual function and preservation of sight."

The following listing of current research awards is a selection of those projects which seem to have the most direct bearing on solving specific problems of visual disease. Many important laboratory investigations on the nature of the normal visual process and the function and structure of the visual system which are vital to the ultimate conquest of blinding eye diseases have not been included for the sake of brevity, but nonetheless constitute an indispensible part of the Institute's total research effort against visual disability.

Currently Active NEI Research Grants
June 1972

Project Director: Aguirre, Gustavo, V.M.D.; *Grantee Agency:* Cornell University, Ithaca, New York; *Grant Number:* EY 00839; *Title of Project:* Neurofibrillar Degeneration in Cone Dysfunction; *Interest Category:* Retinal Disease; *Cost:* $74,215.

Project Director: Albert, Daniel, M.D.; *Grantee Agency:* Yale University, New Haven, Connecticut; *Grant Number:* EY 00108; *Title of Project:* Histopathologic Study of Pigmented Ocular Tumors; *Interest Category:* Eye Tumors; *Cost:* $46,683.

Project Director: Allansmith, Mathea R., M.D.; *Grantee Agency:* Stanford University, Stanford, California; *Grant Number:* EY 00445; *Title of Project:* Studies in Ocular Immunology; *Interest Category:* Visual Disorders; *Cost:* $39,115.

Project Director: Alpern, Mathew, Ph.D.; *Grantee Agency:* University of Michigan, Ann Arbor, Michigan; *Grant Number:* EY 00197; *Title of Project:* Psychophysiological Studies of Ocular Abnormalities; *Interest Category:* Visual Disorders; *Cost:* $77,448.

Project Director: Anderson, Douglas, M.D.; *Grantee Agency:* University of Miami, Miami, Florida; *Grant Number:* EY 00031; *Title of Project:* Experimental Pathology of the Optic Nerve; *Interest Category:* Optic Nerve Disease; *Cost:* $56,595.

Project Director: Anderson, Robert, Ph.D.; *Grantee Agency:* Baylor College of Medicine, Houston, Texas; *Grant Number:* EY 00244; *Title of Project:* The Lipids in Experimentally-Induced Cataracts; *Interest Category:* Cataract; *Cost:* $47,213.

Project Director: Armaly, Mansour, M.D.; *Grantee Agency:* George Washington University, Washington, D.C.; *Grant Number:* EY 00690; *Title of Project:* Collaborative Glaucoma Study; *Interest Category:* Glaucoma; *Cost:* $47,583.

Project Director: Armaly, Mansour, M.D.; *Grantee Agency:* George Washington University, Washington, D.C.; *Grant Number:* EY 00694; *Title of Project:* Workshop on Diabetic Retinopathy; *Interest Category:* Diabetic Retinopathy; *Cost:* $8,721.

Project Director: Armaly, Mansour, M.D.; *Grantee Agency:* George Washington University, Washington, D.C.; *Grant Number:* EY 00692; *Title of Project:* Comparative Study of Glaucoma; *Interest Category:* Glaucoma; *Cost:* $44,341.

Project Director: Avery, Mary E., M.D.; *Grantee Agency:* McGill University, Montreal, Canada; *Grant Number:* EY 00739; *Title of Project:* Study of Oxygen Therapy for Premature Infants; *Interest Category:* Retrolental Fibroplasia; *Cost:* $13,100.

Project Director: Barany, Ernst, M.D.; *Grantee Agency:* University of Uppsala, Sweden; *Grant Number:* EY 00231; *Title of Project:* Comparative Studies of Glaucoma; *Interest Category:* Glaucoma; *Cost:* $32,357.

Project Director: Barber, G. Winston, Ph.D.; *Grantee Agency:* Wills Eye Hospital, Philadelphia, Pennsylvania; *Grant Number:* EY 00225; *Title of Project:* Studies of Lens Metabolism; *Interest Category:* Cataract; *Cost:* $69,834.

Project Director: Barlow, Horace, Sci.M.D.; *Grantee Agency:* University of California, Berkeley, California; *Grant Number:* EY 00276; *Title of Project:* Problems in Visual Physiology; *Interest Category:* Visual Disorders; *Cost:* $130,590.

Project Director: Barmack, Neal, Ph.D.; *Grantee Agency:* Good Samaritan Hospital & Medical Center, Portland, Oregon; *Grant Number:* EY 00848; *Title of Project:* Motoneuron and Motor Unit Control of Eye Movements; *Interest Category:* Oculomotor Disorders; *Cost:* $61,820.

Project Director: Barron, Almen, Ph.D.; *Grantee Agency:* State University of New York, Buffalo, New York; *Grant Number:* EY 00079; *Title of Project:* Biologic and Serologic Properties of Trachoma Agent; *Interest Category:* Trachoma; *Cost:* $42,110.

Project Director: Baum, Jules, M.D.; *Grantee Agency:* New England Medical Center Hospitals, Boston, Massachusetts; *Grant Number:* EY 00493; *Title of Project:* Corneal Research Clinic; *Interest Category:* Corneal Disease; *Cost:* $17,537.

Project Director: Baum, Jules, M.D.; *Grantee Agency:* New England Medical Center Hospitals, Boston, Massachusetts; *Grant Number:* EY 00772; *Title of Project:* Histochemistry of Corneal Disease in Tissue Culture; *Interest Category:* Corneal Disease; *Cost:* $39,915.

Project Director: Becker, Bernard, M.D.; *Grantee Agency:* Washington University, St. Louis, Missouri; *Grant Number:* EY 00336; *Title of Project:* Glaucoma Clinical Research Center; *Interest Category:* Glaucoma; *Cost:* $272,663.

Project Director: Becker, Bernard, M.D.; *Grantee Agency:* Washington University, St. Louis, Missouri; *Grant Number:* EY 00004; *Title of Project:* The Aqueous Humor; *Interest Category:* Glaucoma; *Cost:* $224,387.

Project Director: Becker, Bernard, M.D.; *Grantee Agency:* Washington University, St. Louis, Missouri; *Grant Number:* EY 00082; *Title of Project:* Collaborative Glaucoma Study; *Interest Category:* Glaucoma; *Cost:* $93,974.

Project Director: Becker, Bernard, M.D.; *Grantee Agency:* Washington University, St. Louis, Missouri; *Grant Number:* EY 00233; *Title of Project:* Studies on Visual Function; *Interest Category:* Visual Disorders; *Cost:* $121,496.

Project Director: Becker, Bernard, M.D.; *Grantee Agency:* Washington University, St. Louis, Missouri; *Grant Number:* EY 00653; *Title of Project:* Treatment of Diabetic Retinopathy; *Interest Category:* Diabetic Retinopathy; *Cost:* $35,540.

Project Director: Berson, Eliot, M.D.; *Grantee Agency:* Harvard University, Boston, Massachusetts; *Grant Number:* EY 00169; *Title of Project:* Electrophysiological Studies of Retinal Degenerations; *Interest Category:* Retinal Disease; *Cost:* $50,256.

Project Director: Bill, Anders, M.D.; *Grantee Agency:* University of Uppsala, Uppsala, Sweden; *Grant Number:* EY 00475; *Interest Category:* Glaucoma; *Cost:* $21,000.

Project Director: Bito, Laszlo, Ph.D.; *Grantee Agency:* Columbia University, New York, New York; *Grant Number:* EY 00333; *Title of Project:* Ocular Fluid Composition and Ocular Tissue Physiology; *Interest Category:* Glaucoma; *Cost:* $38,100.

Project Director: Blodi, Frederick, M.D.; *Grantee Agency:* University of Iowa, Iowa City, Iowa; *Grant Number:* EY 00117; *Title of Project:* Strabismus Genetic, Therapeutic and Functional Studies; *Interest Category:* Oculomotor Disorders; *Cost:* $63,793.

Project Director: Blodi, Frederick, M.D.; *Grantee Agency:* University of Iowa, Iowa City, Iowa; *Grant Number:* EY 00085; *Title of Project:* Collaborative Glaucoma Study; *Interest Category:* Glaucoma; *Cost:* $58,159.

Project Director: Bradley, Robert, M.D.; *Grantee Agency:* Joslin Diabetes Foundation, Boston, Massachusetts; *Grant Number:* EY 00643; *Title of Project:* Collaborative Diabetic Retinopathy Study; *Interest Category:* Diabetic Retinopathy; *Cost:* $35,021.

Project Director: Breinin, Goodwin, M.D.; *Grantee Agency:* New York University, New York, New York; *Grant Number:* EY 00309; *Title of Project:* Fine Structure of Normal and Pathologic Ocular Muscle; *Interest Category:* Oculomotor Disorders; *Cost:* $88,712.

Project Director: Brown, Joel, Ph.D.; *Grantee Agency:* Vanderbilt University, Nashville, Tennessee; *Grant Number:* EY 00834; *Title of Project:* Visual Receptor Potentials; *Interest Category:* Retinal Disorders; *Cost:* $31,065.

Project Director: Brown, Stuart, M.D.; *Grantee Agency:* Cornell University Medical College, New York, New York; *Grant Number:* EY 00502; *Title of Project:* Collagenolytic Systems in Normal and Diseased Corneas; *Interest Category:* Corneal Disease; *Cost:* $35,042.

Project Director: Brubaker, Richard, M.D.; *Grantee Agency:* Mayo Foundation, Rochester, Minnesota; *Grant Number:* EY 00634; *Title of Project:* Pathology of the Blood-Aqueous Barrier; *Interest Category:* Glaucoma; *Cost:* $60,052.

Project Director: Burkhardt, Dwight, Ph.D.; *Grantee Agency:* University of Minnesota, Minneapolis, Minnesota; *Grant Number:* EY 00460; *Title of Project:* Vision and Intraretinal Potentials; *Interest Category:* Retinal Disease; *Cost:* $26,325.

Project Director: Carr, Ronald, M.D.; *Grantee Agency:* New York University, New York, New York; *Grant Number:* EY 00213; *Title of Project:* ERG and Psychophysical Studies in Retinal Disorders; *Interest Category:* Retinal Disease; *Cost:* $64,547.

Project Director: Casey, William, M.D.; *Grantee Agency:* University of California, San Francisco, California; *Grant Number:* EY 00418; *Title of Project:* Physiology and Pharmacology of Aqueous Humor Outflow; *Interest Category:* Glaucoma; *Cost:* $42,229.

Project Manager: Cogan, David, M.D.; *Grantee Agency:* Harvard University, Boston, Massachusetts; *Grant Number:* EY 00170; *Title of Project:* Metabolism of the Normal and Abnormal Ocular Lens; *Interest Category:* Cataract; *Cost:* $36,428.

Project Director: Cogan, David, M.D.; *Grantee Agency:* Harvard University, Boston, Massachusetts; *Grant Number:* EY 00304; *Title of Project:* Cataracts; *Interest Category:* Cataract; *Cost:* $31,382.

Project Manager: Cogan, David, M.D.; *Grantee Agency:* Harvard University, Boston, Massachusetts; *Grant Number:* EY 00292; *Title of Project:* Intrinsic and Extrinsic Ocular Disease Investigations; *Interest Category:* Visual Disorders; *Cost:* $403,101.

Project Director: Coleman, Jackson, M.D.; *Grantee Agency:* Columbia University, New York, New York; *Grant Number:* EY 00275; *Title of Project:* Ultrasonic Measurement of Optical Dimensions; *Interest Category:* Visual Disorders; *Cost:* $71,166.

Project Director: Collins, Carter, Ph.D.; *Grantee Agency:* Smith-Kettlewell Institute, San Francisco, California; *Grant Number:* EY 00686; *Title of Project:* Portable Seeing Aid; *Interest Category:* Sensory Aids; *Cost:* $49,609.

Project Director: Constant, Marguerite, Ph.D.; *Grantee Agency:* Washington University, St. Louis, Missouri; *Grant Number:* EY 00192; *Title of Project:* Lens in Health and Disease; *Interest Category:* Cataract; *Cost:* $62,489.

Project Director: Cotlier, Edward, M.D.; *Grantee Agency:* University of Illinois Medical Center, Chicago, Illinois; *Grant Number:* EY 00703; *Title of Project:* Biochemical Studies in Normal and Cataractous Lenses; *Interest Category:* Cataract; *Cost:* $41,379.

Project Director: Cowan, Thaddeus, Ph.D.; *Grantee Agency:* Kansas State University, Manhattan, Kansas; *Grant Number:* EY 00869; *Title of Project:* The Development of an Artificial Scotoma; *Interest Category:* Visual Disorders; *Cost:* $6,203.

Project Director: Cowgill, Robert, Ph.D.; *Grantee Agency:* Wake Forest University, Winston-Salem, North Carolina; *Grant Number:* EY 00422; *Title of Project:* Fluorescent Derivatives of Tyrosine in Cataract Lens; *Interest Category:* Cataract; *Cost:* $14,667.

Project Director: Curtin, Brian, M.D.; *Grantee Agency:* Manhattan Eye, Ear and Throat Hospital, New York, New York; *Grant Number:* EY 00510; *Title of Project:* Anatomical-Functional Characteristics of Myopia; *Interest Category:* Refractive Errors; *Cost:* $10,895.

Project Director: Davidson, Philip, Ph.D.; *Grantee Agency:* Washington College, Chestertown, Maryland; *Grant Number:* EY 00807; *Title of Project:* Active Handling and Memory for Form by the Blind; *Interest Category:* Sensory Aids; *Cost:* $6,642.

Project Director: Davis, Matthew, M.D.; *Grantee Agency:* University of Wisconsin, Madison, Wisconsin; *Grant Number:* EY 00342; *Title of Project:* Diabetic Retinopathy — Vision Outpatient Center; *Interest Category:* Diabetic Retinopathy; *Cost:* $74,575.

Project Director: Davis, Matthew, M.D.; *Grantee Agency:* University of Wisconsin, Madison, Wisconsin; *Grant Number:* EY 00300; *Title of Project:* Diabetic Retinopathy; *Interest Category:* Diabetic Retinopathy; *Cost:* $57,732.

Project Director: Davis, Matthew, M.D.; *Grantee Agency:* University of Wisconsin, Madison, Wisconsin; *Grant Number:* EY 00644; *Title of Project:* Collaborative Diabetic Retinopathy Study; *Interest Category:* Diabetic Retinopathy; *Cost:* $34,315.

Project Director: Davis, Matthew, M.D.; *Grantee Agency:* University of Wisconsin, Madison, Wisconsin; *Grant Number:* EY 00645; *Title of Project:* Collaborative Diabetic Retinopathy Study; *Interest Category:* Diabetic Retinopathy; *Cost:* $61,803.

Project Director: Davis, Robert, D.V.M.; *Grantee Agency:* Colorado State University, Fort Collins, Colorado; *Grant Number:* EY 00474; *Title of Project:* Parasites as Causes of Blindness; *Interest Category:* Visual Disorders; *Cost:* $84,730.

Project: Dawson, Chandler, M.D.; *Grantee Agency:* University of California, San Francisco, California; *Grant Number:* EY 00427; *Title of Project:* Analysis of Problems in Ocular Inflammatory Diseases; *Interest Category:* Visual Disorders; *Cost:* $50,749.

Project Director: De Voe, Robert, Ph.D.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 0008; *Title of Project:* Analysis of Flicker Retinal Action Potentials; *Interest Category:* Retinal Disease; *Cost:* $20,348.

Project Director: Dobyns, Brown, M.D.; *Grantee Agency:* Case Western Reserve University, Cleveland, Ohio; *Grant Number:* EY 00588; *Title of Project:* The Relationships of EPS and LATS to Exophthalmos; *Interest Category:* Visual Disorders; *Cost:* $25,455.

Project Director: Dohlman, Claes, M.D.; *Grantee Agency:* Retina Foundation, Boston, Massachusetts; *Grant Number:* EY 00208; *Title of Project:* Corneal Physiology and Pathology; *Interest Category:* Corneal Disease; *Cost:* $218,246.

Project Director: Downer, John, Ph.D.; *Grantee Agency:* University of Washington, Seattle, Washington; *Grant Number:* EY 00491; *Title of Project:* Experimental Neuro-ophthalmology; *Interest Category:* Retinal Disease; *Cost:* $1,857.

Project Director: Downer, John, Ph.D.; *Grantee Agency:* University of Washington, Seattle, Washington; *Grant Number:* EY 00094; *Title of Project:* Transneuronal Changes in Amblyopia; *Interest Category:* Retinal Disease; *Cost:* $15,325.

Project Director: Driscoll, John M., Jr., M.D.; *Grantee Agency:* Columbia University, New York, New York; *Grant Number:* EY 00488; *Title of Project:* Cooperative RLF Study - Oxygen Therapy for Prematures; *Interest Category:* Retrolental Fibroplasia; *Cost:* $22,125.

Project Director: Duane, Thomas, M.D.; *Grantee Agency:* Thomas Jefferson University, Philadelphia, Pennsylvania; *Grant Number:* EY 00341; *Title of Project:* Retinal Clinical Research Unit; *Interest Category:* Retinal Disease; *Cost:* $49,610.

Project Director: Edelhauser, Henry F., Ph.D.; *Grantee Agency:* Medical College of Wisconsin, Milwaukee, Wisconsin; *Grant Number:* EY 00428; *Title of Project:* Pathophysiology of Corneal Disease; *Interest Category:* Corneal Disease; *Cost:* $55,783.

Project Director: Edwards, William, M.D.; *Grantee Agency:* University of Louisville, Louisville, Kentucky; *Grant Number:* EY 00432; *Title of Project:* Hereditary and Environmental Factors in Blindness; *Interest Category:* Visual Disorders; *Cost:* $15,037.

Project Director: Elliott, James, M.D.; *Grantee Agency:* Vanderbilt University, Nashville, Tennessee; *Grant Number:* EY 00344; *Title of Project:* Studies of Ocular Hypersensitivity; *Interest Category:* Corneal Diseases; *Cost:* $54,493.

Project Director: Enoch, Jay, Ph.D.; *Grantee Agency:* Washington University, St. Louis, Missouri; *Grant Number:* EY 00204; *Title of Project:* The Etiology of Reduced Visual Function; *Interest Category:* Retinal Disease; *Cost:* $80,045.

Project Director: Evans, Peter, M.D.; *Grantee Agency:* Georgetown University, Washington, D.C.; *Grant Number:* EY 00503; *Title of Project:* Retinal Circulation Times; *Interest Category:* Retinal Disease; *Cost:* $23,834.

Project Director: Ferrer, Olga, M.D.; *Grantee Agency:* Horacio Ferrer Eye Institute, Miami, Florida; *Grant Number:* EY 00534; *Title of Project:* Fluorescein Retinal Circulation Time in Diabetics; *Interest Category:* Diabetic Retinopathy; *Cost:* $7,000.

Project Director: Fine, Ben, M.D.; *Grantee Agency:* George Washington University, Washington, D.C.; *Grant Number:* EY 00133; *Title of Project:* Electron Microscopy in Ocular Pathology; *Interest Category:* Visual Disorders; *Cost:* $55,802.

Project Director: Fine, Ben, M.D.; *Grantee Agency:* George Washington University, Washington, D.C.; *Grant Number:* EY 00397; *Title of Project:* Chorioretinal Scarring; *Interest Category:* Retinal Disease; *Cost:* $37,524.

Project Director: Fischbarg, Jorge, M.D.; *Grantee Agency:* Columbia University, New York, New York; *Grant Number:* EY 00727; *Title of Project:* Corneal Transparency and Active Transport Mechanisms; *Interest Category:* Corneal Disease; *Cost:* $22,479.

Project Director: Fisher, Earl, Jr., Ph.D.; *Grantee Agency:* Portland State University, Portland, Oregon; *Grant Number:* EY 00365; *Title of Project:* Action of Proteolytic Enzymes on Corneal Tissue; *Interest Category:* Corneal Disease; *Cost:* $36,952.

Project Director: Fisher, Steven, Ph.D.; *Grantee Agency:* University of California, Santa Barbara, California; *Grant Number:* EY 00888; *Title of Project:* Studies on the Developing and Adult Visual System; *Interest Category:* Developmental Disorders; *Cost:* $29,696.

Project Director: Flax, Martin, M.D.; *Grantee Agency:* Tufts University, Boston, Massachusetts; *Grant Number:* EY 00741; *Title of Project:* Studies of Ocular Hypersensitivity Reactions; *Interest Category:* Corneal Disease; *Cost:* $18,045.

Project Director: Fraunfelter, Frederick T., M.D.; *Grantee Agency:* University of Arkansas Medical Center, Little Rock, Arkansas; *Grant Number:* EY 00891; *Title of Project:* Treatment of Intraocular Tumors; *Interest Category:* Eye Tumors; *Cost:* $17,645.

Project Director: Foos, Robert, M.D.; *Grantee Agency:* University of California, Los Angeles, California; *Grant Number:* EY 00725; *Title of Project:* Proliferative Vitreoretinography Ultrastructure; *Interest Category:* Retinal Disease; *Cost:* $47,149.

Project Director: Forster, Richard, M.D.; *Grantee Agency:* University of Miami, Miami, Florida; *Grant Number:* EY 00674; *Title of Project:* Diagnosis and Management of Fusarium Keratomycoses; *Interest Category:* Visual Disorders; *Cost:* $36,188.

Project Director: Fox, Robert, Ph.D.; *Grantee Agency:* University of Arkansas Medical Center, Little Rock, Arkansas; *Grant Number:* EY 00590; *Title of Project:* The Suppression Mechanism in Binocilar Rivalry; *Interest Category:* Oculomotor Disorders; *Cost:* $17,645.

Project Director: Frayser, Regina, Ph.D.; *Grantee Agency:* Indiana University, Indianapolis, Indiana; *Grant Number:* EY 00245; *Title of Project:* A Study of the Retinal Circulation; *Interest Category:* Retinal Disorders; *Cost:* $15,962.

Project Director: Friedman, Ephraim, M.D.; *Grantee Agency:* Boston University, Boston, Massachusetts; *Grant Number:* EY 00314; *Title of Project:* Ocular Blood Flow; *Interest Category:* Retinal Disorders; *Cost:* $65,112.

Project Director: Fuchs, Albert, Ph.D.; *Grantee Agency:* University of Washington, Seattle, Washington; *Grant Number:* EY 00745; *Title of Project:* Neurophysiological Studies of the Oculomotor System; *Interest Category:* Oculomotor Disorders; *Cost:* $32,549.

Project Director: Geller, Estelle, D.V.M.; *Grantee Agency:* Yeshiva University, New York New York; *Grant Number:* EY 00356; *Title of Project:* Congenital Cataracts and Associated Anomalies; *Interest Category:* Cataracts; *Cost:* $5,770.

Project Director: Gerke, John R., Ph.D.; *Grantee Agency:* Pacific University, Forest Grove, Oregon; *Grant Number:* EY 00496; *Title of Project:* Experimental Pseudomonas Infection of the Cornea; *Interest Category:* Corneal Disease; *Cost:* $36,381.

Project Director: Gibbs, Gordon, M.D.; *Grantee Agency:* University of Nebraska College of Medicine, Omaha, Nebraska; *Grant Number:* EY 00437; *Title of Project:* Retinal Microaneurisms—Effect of Hypophysectomy; *Interest Category:* Retinal Disease; *Cost:* $24,507.

Project Director: Goldberg, Morton, M.D.; *Grantee Agency:* University of Illinois Medical Center, Chicago, Illinois; *Grant Number:* EY 00646; *Title of Project:* Collaborative Diabetic Retinopathy Study; *Interest Category:* Diabetic Retinopathy; *Cost:* $59,480.

Project Director: Gollender, Morton, Ph.D.; *Grantee Agency:* Pacific University, Forest Grove, Oregon; *Grant Number:* EY 00593; *Title of Project:* Behavioral and Neural Effects of Visual Deprivation; *Interest Category:* Retinal Disease; *Cost:* $36,984.

Project Director: Goodner, Ernest, Ph.D.; *Grantee Agency:* University of California, San Francisco, California; *Grant Number:* EY 00408; *Title of Project:* Clinical Studies in Ocular Inflammation; *Interest Category:* Visual Disorders; *Cost:* $58,249.

Project Director: Grant, Morton, M.D.; *Grantee Agency:* Massachusetts Eye and Ear Infirmary, Boston, Massachusetts; *Grant Number:* EY 0002; *Title of Project:* Pressure-Regulating Mechanisms in Glaucoma; *Interest Category:* Glaucoma; *Cost:* $34,453.

Project Director: Grayston, J. Thomas, M.D.; *Grantee Agency:* University of Washington, Seattle, Washington; *Grant Number:* EY 00219; *Title of Project:* Prevention of Trachoma; *Interest Category:* Trachoma; *Cost:* $139,005.

Project Director: Haddad, Heskel, M.D.; *Grantee Agency:* New York Medical College, New York, New York; *Grant Number:* EY 00951; *Title of Project:* Pathogenesis of Endocrine Exophthalmos; *Interest Category:* Visual Disorders; *Cost:* $28,346.

Project Director: Hanna, Calvin, Ph.D.; *Grantee Agency:* University of Arkansas Medical Center, Little Rock, Arkansas; *Grant Number:* EY 00239; *Title of Project:* Bio-

chemical Studies on Lens Cataract Formation; *Interest Category:* Cataract; *Cost:* $20,027

Project Director: Harris, Audrey, B.Sc.; *Grantee Agency:* Wills Eye Hospital, Philadelphia, Pennsylvania; *Grant Number:* EY 00555; *Title of Project:* Cataract and Lens Deterioration Due to Maturation; *Interest Category:* Cataracts; *Cost:* $31,735.

Project Director: Harris, John, M.D.; *Grantee Agency:* University of Minnesota, Minneapolis, Minnesota; *Grant Number:* EY 00659; *Title of Project:* Collaborative Diabetic Retinopathy Study; *Interest Category:* Diabetic Retinopathy; *Cost:* $32,891.

Project Director: Henkind, Paul, M.D.; *Grantee Agency:* Montefiore Hospital and Medical Center, New York, New York; *Grant Number:* EY 00613; *Title of Project:* Retinal Pathology and Circulation; *Interest Category:* Retinal Disease; *Cost:* $110,030.

Project Director: Henley, Walter, M.D.; *Grantee Agency:* Mt. Sinai School of Medicine, New York, New York; *Grant Number:* EY 00145; *Title of Project:* Pathogenic Mechanisms of Chronic Eye Disease; *Interest Category:* Visual Disorders; *Cost:* $67,066.

Project Director: Hessburg, Philip, M.D.; *Grantee Agency:* Henry Ford Hospital, Detroit, Michigan; *Grant Number:* EY 00152; *Title of Project:* Aqueous Microbiology; *Interest Category:* Glaucoma; *Cost:* $38,162.

Project Director: Hogan, Michael, M.D.; *Grantee Agency:* University of California, San Francisco, California; *Grant Number:* EY 00799; *Title of Project:* Studies on Ocular Dystrophies and Entraocular Muscles, *Interest Category:* Visual Disorders; *Cost:* $30,585.

Project Director: Holland, Monte, M.D.; *Grantee Agency:* Tulane University, New Orleans, Louisiana; *Grant Number:* EY 00494; *Title of Project:* Clinical Electrophysiologic Studies of Ocular Disease; *Interest Category:* Retinal Disease; *Cost:* $49,042.

Project Director: Holland, Monte, M.D.; *Grantee Agency:* Tulane University, New Orleans, Louisiana; *Grant Number:* EY 00207; *Title of Project:* Physiology and Pharmacology of Aqueous Humor Flow; *Interest Category:* Glaucoma; *Cost:* $48,438.

Project Director: Hollenhorst, Robert, M.D.; *Grantee Agency:* Mayo Foundation, Rochester, Minnesota; *Grant Number:* EY 00439; *Title of Project:* Pupillography; *Interest Category:* Visual Disorders; *Cost:* $26,325.

Project Director: Hollyfield, Joe, Ph.D.; *Grantee Agency:* Columbia University, New York, New York; *Grant Number:* EY 00624; *Title of Project:* Causal Factors Regulating Growth in the Visual System; *Interest Category:* Developmental Disorders; *Cost:* $22,389.

Project Director: Howes, Edward, M.D.; *Grantee Agency:* University of California, San Francisco, California; *Grant Number:* EY 00056; *Title of Project:* Pathogenesis of Altered Ocular Vascular Permeability; *Interest Category:* Retinal Disease; *Cost:* $24,528.

Project Director: Jacobson, Jerry, M.D.; *Grantee Agency:* Cornell University Medical College, New York, New York; *Grant Number:* EY 00264; *Title of Project:* Clinical,

Retinal and Occipital Visual-Evoked Response; *Interest Category:* Retinal Disease; *Cost:* $26,313.

Project Director: Jawetz, Ernest, M.D.; *Grantee Agency:* University of California, San Francisco, California; *Grant Number:* EY 00186; *Title of Project:* Viral Keratoconjunctivitis and Related Disorders; *Interest Category:* Corneal Disease; *Cost:* $112,641.

Project Director: Jocson, Vicente, M.D.; *Grantee Agency:* Yale University, New Haven, Connecticut; *Grant Number:* EY 00770; *Title of Project:* Congenital Glaucoma—Pathogenesis, Diagnosis, Therapy; *Interest Category:* Glaucoma; *Cost:* $62,330.

Project Director: Johnson, Mary K., Ph.D.; *Grantee Agency:* Tulane University, New Orleans, Louisiana; *Grant Number:* EY 00424; *Title of Project:* Pneumococcal Enzymes and Corneal Ulcers; *Interest Category:* Corneal Disease; *Cost:* $40,361.

Project Director: Kalina, Robert, M.D.; *Grantee Agency:* University of Washington, Seattle, Washington; *Grant Number:* EY 00485; *Title of Project:* Cooperative RLF Study—Oxygen Therapy for Prematures; *Interest Category:* Retrolental Fibroplasia; *Cost:* $23,120.

Project Director: Kandel, Gillray, Ph.D.; *Grantee Agency:* Rensselaer Polytechnic Institute, Troy, New York; *Grant Number:* EY 00800; *Title of Project:* Photopic and Scotopic Vision of Strabismic Amblyopia; *Interest Category:* Oculomotor Disorder; *Cost:* $36,801.

Project Director: Kaufman, Herbert, M.D.; *Grantee Agency:* University of Florida, Gainesville, Florida, *Grant Number:* EY 00446; *Title of Project:* External Ocular Disease Center; *Interest Category:* Visual Disorders; *Cost:* $317,146.

Project Director: Kaufman, Herbert, M.D.; *Grantee Agency:* University of Florida, Gainesville, Florida; *Grant Number:* EY 00007; *Title of Project:* Ocular Herpes Simplex; *Interest Category:* Visual Disorders; *Cost:* $56,515.

Project Director: Kaufman, Herbert, M.D.; *Grantee Agency:* University of Florida, Gainesville, Florida; *Grant Number:* EY 00266; *Title of Project:* Corneal Preservation and Keratoplasty; *Interest Category:* Corneal Disease; *Cost:* $25,119.

Project Director: Kayes, Jack, M.D.; *Grantee Agency:* Washington University, St. Louis, Missouri; *Grant Number:* EY 00015; *Title of Project:* Cytology, Pathophysiology of Aqueous Pathways of the Eye; *Interest Category:* Glaucoma; *Cost:* $29,619.

Project Director: Kinsey, Everett, Ph.D.; *Grantee Agency:* Oakland University, Rochester, Michigan; *Grant Number:* EY 00483; *Title of Project:* Intraocular Fluid Dynamics; *Interest Category:* Glaucoma; *Cost:* $90,412.

Project Director: Kinsey, Everett, Ph.D.; *Grantee Agency:* Oakland University, Rochester, Michigan; *Grant Number:* EY 00486; *Title of Project:* Cooperative RLF Study—Oxygen Therapy for Prematures; *Interest Category:* Retrolental Fibroplasia; *Cost:* $17,861.

Project Director: Klinthworth, Gordon, M.D.; *Grantee Agency:* Duke University, Durham, North Carolina; *Grant Number:* EY 00146; *Title of Project:* Experimental Approach to Diseases of the Cornea; *Interest Category:* Corneal Disease; *Cost:* $34,795.

Project Director: Knatterud, Genell, Ph.D.; *Grantee Agency:* University of Maryland Professional School, Baltimore, Maryland; *Grant Number:* EY 00642; *Title of Project:* Collaborative Diabetic Retinopathy Study Coordinating Center; *Interest Category:* Diabetic Retinopathy; *Cost:* $104,617.

Project Director: Knox, John, Ph.D.; *Grantee Agency:* Baylor College of Medicine, Houston, Texas; *Grant Number:* EY 00234; *Title of Project:* Photosensitization of the Eye; *Interest Category:* Retinal Disease; *Cost:* $29,054.

Project Director: Kuck, John F., Jr., Ph.D.; *Grantee Agency:* Emory University, Atlanta, Georgia; *Grant Number:* EY 00260; *Title of Project:* Lens Metabolism in Normal and Pre-Cataractous States; *Interest Category:* Cataracts; *Cost:* $43,094.

Project Director: Laibson, Peter, M.D.; *Grantee Agency:* Wills Eye Hospital, Philadelphia, Pennsylvania; *Grant Number:* EY 00339; *Title of Project:* Investigation of Viral External Ocular Disease; *Interest Category:* Visual Disorders; *Cost:* $25,536.

Project Director: Laing, Ronald, Ph.D.; *Grantee Agency:* Boston University, Boston, Massachusetts; *Grant Number:* EY 00314; *Title of Project:* Ocular Blood Flow; *Interest Category:* Visual Disorders; *Cost:* $17,304.

Project Director: Langham, Maurice, Ph.D.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 00476; *Title of Project:* The Regulation of the Intraocular Pressure; *Interest Category:* Glaucoma; *Cost:* $50,508.

Project Director: Leibowitz, Howard, M.D.; *Grantee Agency:* Boston University, Boston, Massachusetts; *Grant Number:* EY 00544; *Title of Project:* Studies in Corneal Transplantation; *Interest Category:* Corneal Disease; *Cost:* $74,543.

Project Director: Leibowitz, Howard, M.D.; *Grantee Agency:* University Hospital, Boston, Massachusetts; *Grant Number:* EY 00492; *Title of Project:* Ophthalmic OPD Clinical Research Project; *Interest Category:* Visual Disorders; *Cost:* $60,779.

Project Director: Leopold, Irving, M.D.; *Grantee Agency:* Mt. Sinai School of Medicine, New York, New York; *Grant Number:* EY 00340; *Title of Project:* Clinical Outpatient Center for Ocular Pharmacology; *Interest Category:* Visual Disorders; *Cost:* $109,899.

Project Director: Lessell, Simmons, M.D.; *Grantee Agency:* Boston University, Boston, Massachusetts; *Grant Number:* EY 00013; *Title of Project:* Experimental Optic Neuropathies; *Interest Category:* Optic Nerve Disease; *Cost:* $46,867.

Project Director: Levene, Ralph, M.D.; *Grantee Agency:* New York University, New York, New York; *Grant Number:* EY 00497; *Title of Project:* Corticosteroids and Ocular Pressure; *Interest Category:* Glaucoma; *Cost:* $18,338.

Project Director: Li, Lu-Ku, Ph.D.; *Grantee Agency:* Columbia University, New York, New York; *Grant Number:* EY 00032; *Title of Project:* Subunit Interaction of Lens Proteins; *Interest Category:* Cataracts; *Cost:* $22,786.

Project Director: Lincoff, Harvey, M.D.; *Grantee Agency:* Cornell University Medical College, New York, New York; *Grant Number:* EY 00288; *Title of Project:* The Cryosurgical Treatment of Ocular Disease; *Interest Category:* Surgery; *Cost:* $45,439.

Project Director: Lolley, Richard, Ph.D.; *Grantee Agency:* University of California, Los Angeles, California; *Grant Number:* EY 00395; *Title of Project:* Maturation of Metabolism in Normal and Dystrophic Retina; *Interest Category:* Retinal Disease; *Cost:* $23,962.

Project Director: Lombroso, Cesare, M.D.; *Grantee Agency:* Childrens Hospital Medical Center, Boston, Massachusetts; *Grant Number:* EY 00409; *Title of Project:* Neurophysiological Studies on Amblyopic Children; *Interest Category:* Retinal Disease; *Cost:* $18,847.

Project Director: Ludlam, William, O.D.; *Grantee Agency:* Optometric Center of New York, New York, New York; *Grant Number:* EY 00257; *Title of Project:* Longitudinal Study of the Ocular Dioptric Components; *Interest Category:* Refractive Errors; *Cost:* $85,308.

Project Director: Machemer, Robert, M.D.; *Grantee Agency:* University of Miami, Miami, Florida; *Grant Number:* EY 00462; *Title of Project:* Experimental Retinal Detachment; *Interest Category:* Retinal Disease; *Cost:* $38,738.

Project Director: Manski, Wladyslaw, Sc.D.; *Grantee Agency:* Columbia University, New York, New York; *Grant Number:* EY 00189; *Title of Project:* Immunological Observations on Ocular Lens in Cataract; *Interest Category:* Cataracts; *Cost:* $85,213.

Project Director: Manski, Wladyslaw, Sc.D.; *Grantee Agency:* Columbia University, New York, New York; *Grant Number:* EY 00198; *Title of Project:* Effects of Anti-ocular Antibodies on Ocular Tissue; *Interest Category:* Visual Disorders; *Cost:* $47,746.

Project Director: Marak, George, Jr., M.D.; *Grantee Agency:* Georgetown University, Washington, D.C.; *Grant Number:* EY 00887; *Title of Project:* Pathogenesis of Lens-Induced Uveitis; *Interest Category:* Uveitis; *Cost:* $94,469.

Project Director: Marble, Alexander, M.D.; *Grantee Agency:* Joslin Diabetes Foundation, Boston, Massachusetts; *Grant Number:* EY 00073; *Title of Project:* Outpatient Research Program and Diabetic Retinopathy; *Interest Category:* Diabetic Retinopathy; *Cost:* $32,737.

Project Director: Maumenee, Edward, M.D.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 00499; *Title of Project:* Fundus Camera for Retinal Fluorescence Cinematography; *Interest Category:* Retinal Disease; *Cost:* $29,950.

Project Director: Maurice, David, Ph.D.; *Grantee Agency:* Stanford University, Stanford, California; *Grant Number:* EY 00431; *Title of Project:* Control of Corneal Hydration; *Interest Category:* Corneal Disease; *Cost:* $175,604.

Project Director: McLaughlin, Samuel, M.S.; *Grantee Agency:* Tufts University, Medford, Massachusetts; *Grant Number:* EY 00121; *Title of Project:* Visual and Auditory Feedback in Amblyopia ex Anopsia; *Interest Category:* Oculomotor Disorders; *Cost:* $18,910.

Project Director: Meikle, Thomas, Jr., M.D.; *Grantee Agency:* Cornell University Medical College, New York, New York; *Grant Number:* EY 00088; *Title of Project:* Effects

of Brain Lesions on Brightness Discrimination; *Interest Category:* Visual Disorders; *Cost:* $56,117.

Project Director: Miller, James E., M.D.; *Grantee Agency:* Washington University, St. Louis, Missouri; *Grant Number:* EY 00519; *Title of Project:* A Study of Normal and Diseased Extraocular Muscle; *Interest Category:* Oculomotor Disorders; *Cost:* $64,856.

Project Director: Moses, Robert A., M.D.; *Grantee Agency:* Washington University, St. Louis, Missouri; *Grant Number:* EY 00256; *Title of Project:* Factors Affecting Intraocular Pressure; *Interest Category:* Glaucoma; *Cost:* $111,590.

Project Director: Nakajima, Akira, M.D.; *Grantee Agency:* Juntendo University, Tokyo, Japan; *Grant Number:* EY 00442; *Title of Project:* Biochemical Studies of Human Lens and Cataracts; *Interest Category:* Cataracts; *Cost:* $9,000.

Project Director: Newell, Frank W., M.D.; *Grantee Agency:* University of Chicago, Chicago, Illinois; *Grant Number:* EY 00523; *Title of Project:* Sensory Disease Clinical Research Center; *Interest Category:* Visual Disorders; *Cost:* $130,348.

Project Director: Nichols, Roger L., M.D.; *Grantee Agency:* Harvard University, Boston, Massachusetts; *Grant Number:* EY 00812; *Title of Project:* Prevention of Trachoma and Other Infectious Diseases; *Interest Category:* Trachoma; *Cost:* $224,785.

Project Director: Noell, Werner K., M.D.; *Grantee Agency:* State University of New York, Buffalo, New York; *Grant Number:* EY 00297; *Title of Project:* Vulnerability of the Retina to Light and Other Agents; *Interest Category:* Retinal Disease; *Cost:* $69,618.

Project Director: Norton, Edward W., M.D.; *Grantee Agency:* University of Miami, Miami, Florida; *Grant Number:* EY 00338; *Title of Project:* A Study of Macular Disease; *Interest Category:* Retinal Disease; *Cost:* $144,213.

Project Director: Norton, Edward W., M.D.; *Grantee Agency:* University of Miami, Miami, Florida; *Grant Number:* EY 00657; *Title of Project:* Collaborative Diabetic Retinopathy Study; *Interest Category:* Diabetic Retinopathy; *Cost:* $34,391.

Project Director: Ogden, Thomas, M.D.; *Grantee Agency:* University of Utah, Salt Lake City, Utah; *Grant Number:* EY 00530; *Title of Project:* A Study of Evoked Retinal Activity; *Interest Category:* Retinal Disease; *Cost:* $48,891.

Project Director: Oyster, Clyde, Ph.D.; *Grantee Agency:* University of Alabama, Birmingham, Alabama; *Grant Number:* EY 00771; *Title of Project:* Neurophysiology of Optokinetic Nystagmus; *Interest Categories:* Oculomotor Disorders; *Cost:* $25,557.

Project Director: Pappas, George, Ph.D.; *Grantee Agency:* Yeshiva University, New York, New York; *Grant Number:* EY 00388; *Title of Project:* EM Study of the Eye and Vascular Fluid Dynamics; *Interest Category:* Visual Disorders; *Cost:* $41,749.

Project Director: Paterson, Christoper, Ph.D.; *Grantee Agency:* University of Colorado Medical Center, Denver, Colorado; *Grant Number:* EY 00506; *Title of Project:* Ion Movement and Distribution in the Crystalline Lens; *Interest Category:* Cataracts; *Cost:* $21,408.

Project Director: Patz, Arnall, M.D.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 00205; *Title of Project:* Studies on the Retina and Retinal Vessels; *Interest Category:* Retinal Disease; *Cost:* $47,418.

Project Director: Patz, Arnall, M.D.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 00250; *Title of Project:* Diabetic Retinopathy; *Interest Category:* Diabetic Retinopathy; *Cost:* $41,921.

Project Director: Patz, Arnall, M.D.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 00489; *Title of Project:* Cooperative RLF Study of Oxygen Therapy for Prematures; *Interest Category:* Retrolental Fibroplasia; *Cost:* $26,552.

Project Director: Patz, Arnall, M.D.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 00656; *Title of Project:* Collaborative Diabetic Retinopathy Study; *Interest Category:* Diabetic Retinopathy; *Cost:* $29,466.

Project Director: Perry, Nathan W., Ph.D.; *Grantee Agency:* University of Florida, Gainesville, Florida; *Grant Number:* EY 00077; *Title of Project:* Monocular and Binocular Evoked Potentials; *Interest Category:* Visual Disorders; *Cost:* $49,329.

Project Director: Pettit, Thomas H., M.D.; *Grantee Agency:* University of California, Los Angeles, Calfironia; *Grant Number:* EY 00394; *Title of Project:* Hypersensitivity of Herpes Keratitis; *Interest Category:* Corneal Disease; *Cost:* $48,506.

Project Director: Pettit, Thomas H., M.D.; *Grantee Agency:* University of California, Los Angeles, California; *Grant Number:* EY 00669; *Title of Project:* Allergic Uveitis and Autoimmune Disease; *Interest Category:* Uveitis; *Cost:* $28,874.

Project Director: Polack, Frank M., M.D.; *Grantee Agency:* University of California, Los Angeles, California; *Grant Number:* EY 00415; *Title of Project:* Ultramicroscopic Changes in Corneal Grant Reaction; *Interest Category:* Corneal Disease; *Cost:* $22,080.

Project Director: Pollack, Irvin P., M.D.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 00084; *Title of Project:* Collaborative Glaucoma Detection Study; *Interest Category:* Glaucoma; *Cost:* $51,507.

Project Director: Pollikoff, Ralph, Ph.D.; *Grantee Agency:* Wills Eye Hospital, Philadelphia, Pennsylvania; *Grant Number:* EY 00619; *Title of Project:* Studies on Experimental Herpetic Keratitis; *Interest Category:* Corneal Disease; *Cost:* $44,985.

Project Director: Potts, Albert, M.D.; *Grantee Agency:* University of Chicago, Chicago, Illinois; *Grant Number:* EY 00065; *Title of Project:* The Action of Drugs and Poisons on the Eye; *Interest Category:* Visual Disorders; *Cost:* $85,054.

Project Director: Potts, Albert, M.D.; *Grantee Agency:* University of Chicago, Chicago, Illinois; *Grant Number:* EY 00212; *Title of Project:* Experimental and Clinical Visual Electroretinopathy; *Interest Category:* Retinal Disease; *Cost:* $59,198.

Project Director: Potts, Albert, M.D.; *Grantee Agency:* University of Chicago, Chicago, Illinois; *Grant Number:* EY 00416; *Title of Project:* Problems in Ocular Circulation; *Interest Category:* Retinal Disease; *Cost:* $48,947.

Project Director: Rafferty, Nancy, Ph.D.; *Grantee Agency:* Northwestern University, Chicago, Illinois; *Grant Number:* EY 00698; *Title of Project:* Etiology of Cataract; *Interest Category:* Cataracts; *Cost:* $28,371.

Project Director: Refojo, Miguel F., D.Sc.; *Grantee Agency:* Retina Foundation, Boston, Massachusetts; *Grant Number:* EY 00327; *Title of Project:* Cornea Research and Synthetic Hydrophilic Polymers for Eye Surgery; *Interest Category:* Surgery; *Cost:* $54,057.

Project Director: Reif-Lehrer, Liane, Ph.D.; *Grantee Agency:* Harvard University, Boston, Massachusetts; *Grant Number:* EY 00374; *Title of Project:* Biochemical Control in the Normal and Diseases Retina; *Interest Category:* Retinal Disease; *Cost:* $81,137.

Project Director: Reinecke, Robert, M.D.; *Grantee Agency:* Albany Medical College, Albany, New York; *Grant Number:* EY 00752; *Title of Project:* Stereopsis and Microtropia in Amblyopia Pathogenesis; *Interest Category:* Oculomotor Disorders; *Cost:* $48,045.

Project Director: Reyer, Randall, Ph.D.; *Grantee Agency:* West Virginia University, Morgantown, West Virginia; *Grant Number:* EY 00196; *Title of Project:* Lens and Neural Retina Development and Regeneration; *Interest Category:* Developmental Disorders; *Cost:* $18,943.

Project Director: Richards, Richard, M.D.; *Grantee Agency:* University of Maryland, Baltimore, Maryland; *Grant Number:* EY 00472; *Title of Project:* Artificial Devices for Glaucoma Study; *Interest Category:* Surgery; *Cost:* $24,040.

Project Director: Riesen, Austin, Ph.D.; *Grantee Agency:* University of California, Riverside, California; *Grant Number:* EY 00573; *Title of Project:* Vision in Special Environments—Developmental Effects; *Interest Category:* Developmental Disorders; *Cost:* $47,848.

Project Director: Riggs, Lorrin, Ph.D.; *Grantee Agency:* Brown University, Providence, Rhode Island; *Grant Number:* EY 00744; *Title of Project:* Visual Psychophysiology; *Interest Category:* Visual Disorders; *Cost:* $36,289.

Project Director: Riley, Michael, Ph.D.; *Grantee Agency:* Oakland University, Rochester, Michigan; *Grant Number:* EY 00541; *Title of Project:* Control of Corneal Hydration and Transparency; *Interest Category:* Corneal Disease; *Cost:* $27,913.

Project Director: Roberts, R. Winston, M.D.; *Grantee Agency:* Wake Forest University, Winston-Salem, North Carolina; *Grant Number:* EY 00466; *Title of Project:* Glaucoma Study—Early and Low Tension Glaucoma; *Interest Category:* Glaucoma; *Cost:* $23,583.

Project Director: Robinson, David A., Dr.Eng.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 00598; *Title of Project:* Oculomotor Control System; *Interest Category:* Oculomotor Disorders; *Cost:* $37,908.

Project Director: Robinson, David A., Dr.Eng.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 00731; *Title of Project:* Freiburg Oculomotor Symposium; *Interest Category:* Oculomotor Disorders; *Cost:* $5,521.

Project Director: Rothstein, Howard, Ph.D.; *Grantee Agency:* University of Vermont and State Agricultural College, Burlington, Vermont; *Grant Number:* EY 00281; *Title of*

Project: Wound Healing in Lens Epithelium; *Interest Category:* Visual Disorders; *Cost:* $30,582.

Project Director: Rubin, Melvin, M.D.; *Grantee Agency:* University of Florida, Gainesville, Florida; *Grant Number:* EY 00373; *Title of Project:* Outer Segment Production and Dystrophy; *Interest Category:* Retinal Disease; *Cost:* $30,659.

Project Director: Sadoglu, Perihan, D.Sc.; *Grantee Agency:* Brown University, Providence, Rhode Island; *Grant Number:* EY 00789; *Title of Project:* Eye Development; *Interest Category:* Developmental Disorders; *Cost:* $17,714.

Project Director: Safir, Aran, M.D.; *Grantee Agency:* Mt. Sinai School of Medicine, New York, New York; *Grant Number:* EY 00473; *Title of Project:* Drug Toxicity Measured by Retinal Directional Effect; *Interest Category:* Visual Disorders; *Cost:* $39,753.

Project Director: Sapse, Alfred T., M.D.; *Grantee Agency:* University of California, Los Angeles, California; *Grant Number:* EY 00823; *Title of Project:* Immunological Pattern of Tears in Ocular Diseases; *Interest Category:* Visual Disorders; *Cost:* $26,733.

Project Director: Scharff, Thomas G., Ph.D.; *Grantee Agency:* University of Louisville, Louisville, Kentucky; *Grant Number:* EY 00370; *Title of Project:* Carbohydrate Transport and Metabolism in the Lens; *Interest Category:* Cataracts; *Cost:* $22,540.

Project Director: Schepens, Charles, M.D.; *Grantee Agency:* Retinal Foundation, Boston, Massachusetts; *Grant Number:* EY 00227; *Title of Project:* Studies on the Posterior Segment of the Eye; *Interest Category:* Visual Disorders; *Cost:* $263,229.

Project Director: Schiller, Peter, Ph.D.; *Grantee Agency:* Massachusetts Institute of Technology, Cambridge, Massachusetts; *Grant Number:* EY 00756; *Title of Project:* Neuropsychological Studies of the Superior Colliculus; *Interest Category:* Oculomotor Disorders; *Cost:* $22,747.

Project Director: Schwartz, Bernard, M.D.; *Grantee Agency:* New England Medical Center Hospitals, Boston, Massachusetts; *Grant Number:* EY 00024; *Title of Project:* Response of Ocular Pressure to Corticosteroids; *Interest Category:* Glaucoma; *Cost:* $57,571.

Project Director: Scott, Walter, M.D.; *Grantee Agency:* Mt. Sinai School of Medicine, New York, New York; *Grant Number:* EY 00718; *Title of Project:* Ocular Carbonic Anhydrase; *Interest Category:* Glaucoma; *Cost:* $46,715.

Project Director: Sears, Marvin, M.D.; *Grantee Agency:* Yale University, New Haven, Connecticut; *Grant Number:* EY 00785; *Title of Project:* Vision Research Center; *Interest Category:* Visual Disorders; *Cost:* $146,170.

Project Director: Sery, Theodore, Ph.D.; *Grantee Agency:* Wills Eye Hospital, Philadelphia, Pennsylvania; *Grant Number:* EY 00075; *Title of Project:* Uveal Reactions Induced by Extraocular Means; *Interest Category:* Uveitis; *Cost:* $49,482.

Project Director: Sery, Theodore, Ph.D.; *Grantee Agency:* Wills Eye Hospital, Philadelphia, Pennsylvania; *Grant Number:* EY 00195; *Title of Project:* Response of Corneal Stroma to Injections of Proteins; *Interest Category:* Corneal Disease; *Cost:* $78,447.

Project Director: Shaffer, Robert N., M.D.; *Grantee Agency:* University of California, San Francisco, California; *Grant Number:* EY 00083; *Title of Project:* Collaborative Glaucoma Detection Study; *Interest Category:* Glaucoma; *Cost:* $48,810.

Project Director: Shaffer, Robert N., M.D.; *Grantee Agency:* University of California, San Francisco, California; *Grant Number:* EY 00420; *Title of Project:* Glaucoma Conference; *Interest Category:* Glaucoma; *Cost:* $7,606.

Project Director: Shapiro, Arnold, M.D.; *Grantee Agency:* Yeshiva University, New York, New York; *Grant Number:* EY 00814; *Title of Project:* Role of Epithelium in Lens Physiology and Pathology; *Interest Category:* Cataracts; *Cost:* $36,298.

Project Director: Sidman, Richard, M.D.; *Grantee Agency:* Harvard University, Boston, Massachusetts; *Grant Number:* EY 00633; *Title of Project:* New Gene Delaying Blindness in Retinal Dystrophy; *Interest Category:* Retinal Disease; *Cost:* $78,223.

Project Director: Silverstein, Arthur, Ph.D.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 00217; *Title of Project:* Studies in Ocular Hypersensitivity; *Interest Category:* Corneal Disease; *Cost:* $29,358.

Project Director: Silverstein, Arthur, Ph.D.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 00279; *Title of Project:* Pathogenesis of Uveitis; *Interest Category:* Uveitis; *Cost:* $33,234.

Project Director: Silverstein, Arthur, Ph.D.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 00618; *Title of Project:* The Pathogenesis of Trachoma; *Interest Category:* Trachoma; *Cost:* $15,395.

Project Director: Sippel, Theodore, Ph.D.; *Grantee Agency:* University of Michigan, Ann Arbor, Michigan; *Grant Number:* EY 00235; *Title of Project:* Respiratory Metabolism of the Lens; *Interest Category:* Cataracts; *Cost:* $8,113.

Project Director: Sisson, James, M.D.; *Grantee Agency:* University of Michigan, Ann Arbor, Michigan; *Grant Number:* EY 00106; *Title of Project:* Mucopolysaccharide Metabolism in Exophthalmos; *Interest Category:* Visual Disorders; *Cost:* $60,191.

Project Director: Sisson, Thomas, M.D.; *Grantee Agency:* Temple University, Philadelphia, Pennsylvania; *Grant Number:* EY 00711; *Title of Project:* Effects of Visible Light and Oxygen on the Retina; *Interest Category:* Retinal Disease; *Cost:* $33,035.

Project Director: Sloan, Louise, Ph.D.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 00005; *Title of Project:* Studies in Physiological Optics; *Interest Category:* Sensory Aids; *Cost:* $32,557.

Project Director: Smelser, George, Ph.D.; *Grantee Agency:* Columbia University, New York, New York; *Grant Number:* EY 00396; *Title of Project:* Basic Ophthalmic Research Program; *Interest Category:* Visual Disorders; *Cost:* $160,442.

Project Director: Smelser, George, Ph.D.; *Grantee Agency:* Columbia University, New York, New York; *Grant Number:* EY 00184; *Title of Project:* Functional Development of the Eye; *Interest Category:* Visual Disorders; *Cost:* $48,469.

Project Director: Smith, Richard, M.D.; *Grantee Agency:* Albany Medical College, Albany, New York; *Grant Number:* EY 00538; *Title of Project:* Ultrastructural Study of Ocular Vascular Permeability; *Interest Category:* Retinal Disorders; *Cost:* $40,258.

Project Director: Sokollu, Adnan, Sc.D.; *Grantee Agency:* Case Western Reserve University, Cleveland, Ohio; *Grant Number:* EY 00224; *Title of Project:* Study of Eye Physiology and Disease by Ultrasound; *Interest Category:* Retinal Disorders; *Cost:* $129,871.

Project Director: Spector, Abraham, Ph.D.; *Grantee Agency:* Columbia University, New York, New York; *Grant Number:* EY 00423; *Title of Project:* Studies Upon the Ocular Lens; *Interest Category:* Cataracts; *Cost:* $111,591.

Project Director: Spector, Abraham, Ph.D.; *Grantee Agency:* Columbia University, New York, New York; *Grant Number:* EY 00759; *Title of Project:* Studies of the Effects of Aging on the Ocular Lens; *Interest Category:* Cataracts; *Cost:* $58,475.

Project Director: Srivastava, Satish, Ph.D.; *Grantee Agency:* City of Hope Medical Center, Duarte, California; *Grant Number:* EY 00712; *Title of Project:* Metabolic Studies in Normal and Cataractous Lenses; *Interest Category:* Cataracts; *Cost:* $17,738.

Project Director: Stahlman, Mildred, M.D.; *Grantee Agency:* Vanderbilt University, Nashville, Tennessee; *Grant Number:* EY 00487; *Title of Project:* Cooperative RLF Study of Oxygen Therapy for Prematures; *Interest Category:* Retrolental Fibroplasia; *Cost:* $26,140.

Project Director: Straatsma, Bradley, M.D.; *Grantee Agency:* University of California, Los Angeles, California; *Grant Number:* EY 00650; *Title of Project:* Collaborative Diabetic Retinopathy Study; *Interest Category:* Diabetic Retinopathy; *Cost:* $46,836.

Project Director: Thomas, Edward R., Jr., M.D.; *Grantee Agency:* Eye Research Foundation, Bethesda, Maryland; *Grant Number:* EY 00616; *Title of Project:* Diagnosis and Etiology of Intra-Ocular Tumors; *Interest Category:* Eye Tumors; *Cost:* $48,450.

Project Director: Thygeson, Phillips, M.D.; *Grantee Agency:* University of California, San Francisco, California; *Grant Number:* EY 00310; *Title of Project:* Studies on the Immunologic Diseases of the Eye; *Interest Category:* Visual Disorders; *Cost:* $312,480.

Project Director: Tokumaru, Tadasu, M.D.; *Grantee Agency:* Columbia University, New York, New York; *Grant Number:* EY 00840; *Title of Project:* Loss of Vision Due to Corneal Inflammation; *Interest Category:* Corneal Disease; *Cost:* $36,703.

Project Director: Ts'o, Mark, M.D.; *Grantee Agency:* American Academy of Ophthalmology and Otolaryngology, Rochester, Minnesota; *Grant Number:* EY 00790; *Title of Project:* Pathology of Retinal Dysfunction; *Interest Category:* Retinal Disease; *Cost:* $43,765.

Project Director: Vainisi, Samuel J., D.V.M.; *Grantee Agency:* University of Illinois Medical Center, Chicago, Illinois; *Grant Number:* EY 00874; *Title of Project:* Studies on Ophthalmic Diseases; *Interest Category:* Visual Disorders; *Cost:* $67,829.

Project Director: Van Horn, Diana, Ph.D.; *Grantee Agency:* Medical College of Wisconsin, Milwaukee, Wisconsin; *Grant Number:* EY 00625; *Title of Project:* Electron Microscopy of Stored and Preserved Corneas; *Interest Category:* Corneal Disease; *Cost:* $37,425.

Project Director: Von Noorden, Gunter, M.D.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 00274; *Title of Project:* Clinical and Laboratory Studies of Amblyopia; *Interest Category:* Oculomotor Disorders; *Cost:* $45,136.

Project Director: Vucicevic, Zarko, M.D.; *Grantee Agency:* University of Pennsylvania, Philadelphia, Pennsylvania; *Grant Number:* EY 00668; *Title of Project:* Laser Coagulation of Filtration Angle and Ciliary Body; *Interest Category:* Glaucoma; *Cost:* $18,260.

Project Director: Wacker, Waldon, Ph.D.; *Grantee Agency:* University of Louisville, Louisville, Kentucky; *Grant Number:* EY 00254; *Title of Project:* Auto- and Iso-Immune Response to Ocular Tissues; *Interest Category:* Visual Disorders; *Cost:* $32,710.

Project Director: Wadsworth, Joseph, M.D.; *Grantee Agency:* Duke University, Durham, North Carolina; *Grant Number:* EY 00332; *Title of Project:* Human Macular Disease, A Clinical Outpatient Study; *Interest Category:* Retinal Disease; *Cost:* $50,767.

Project Director: Waitzman, Morton, Ph.D.; *Grantee Agency:* Emory University, Atlanta, Georgia; *Grant Number:* EY 00243; *Title of Project:* Metabolic Systems in Aqueous Humor Dynamics; *Interest Category:* Glaucoma; *Cost:* $44,524.

Project Director: Walsh, Frank, M.D.; *Grantee Agency:* Johns Hopkins University, Baltimore, Maryland; *Grant Number:* EY 00215; *Title of Project:* Neuropathology and Clinical Ophthalmological Diagnosis; *Interest Category:* Visual Disorders; *Cost:* $46,136.

Project Director: Weimar, Virginia, Ph.D.; *Grantee Agency:* University of Oregon Medical School, Portland, Oregon; *Grant Number:* EY 00238; *Title of Project:* Reaction of Corneal Tissue Cells to Injury; *Interest Category:* Corneal Disease; *Cost:* $65,003.

Project Director: Weissenbacher, Mercedes, M.D.; *Grantee Agency:* New York Medical College, New York, New York; *Grant Number:* EY 00773; *Title of Project:* Ocular Herpes Simplex Keratitis; *Interest Category:* Corneal Disease; *Cost:* $81,029.

Project Director: Westheimer, Gerald, Ph.D.; *Grantee Agency:* University of California, Berkeley, California; *Grant Number:* EY 00220; *Title of Project:* Fundamental Problems of Retinal Function; *Interest Category:* Retinal Disease; *Cost:* $68,021.

Project Director: Westheimer, Gerald, Ph.D.; *Grantee Agency:* University of California, Berkeley, California; *Grant Number:* EY 00592; *Title of Project:* Oculomotor Control; *Interest Category:* Oculomotor Disorders; *Cost:* $67,460.

Project Director: Whittaker, Richard, Ph.D.; *Grantee Agency:* Wistar Institute of Anatomy and Biology, Philadelphia, Pennsylvania; *Grant Number:* EY 00776; *Title of Project:* Melanotic Differentiation of Eye Pigment Epithelium; *Interest Category:* Eye Tumors; *Cost:* $39,231.

Project Director: Wickelgren, Barbara, Ph.D.; *Grantee Agency:* University of Oregon, Eugene, Oregon; *Grant Number:* EY 00125; *Title of Project:* Superior Colliculus and the Control of Eye Movements; *Interest Category:* Oculomotor Disorders; *Cost:* $22,816.

Project Director: Wiesel, Torsten, M.D.; *Grantee Agency:* Harvard University, Boston, Massachusetts; *Grant Number:* EY 00606; *Title of Project:* Studies of the Visual System; *Interest Category:* Visual Disorders; *Cost:* $95,009.

Project Director: Winters, Ray W., Ph.D.; *Grantee Agency:* Franklin and Marshall College, Lancaster, Pennsylvania; *Grant Number:* EY 00701; *Title of Project:* Temporal Factors in Space Perception; *Interest Category:* Visual Disorders; *Cost:* $20,650.

Project Director: Wolf, Ernst, Ph.D.; *Grantee Agency:* Retina Foundation, Boston, Massachusetts; *Grant Number:* EY 00194; *Title of Project:* Visual Sensitivity in Normal and Abnormal Retina; *Interest Category:* Retinal Disease; *Cost:* $56,256.

Project Director: Wolf, George, Ph.D.; *Grantee Agency:* Massachusetts Institute of Technology, Cambridge, Massachusetts; *Grant Number:* EY 00515; *Title of Project:* Vitamin A and Protein Synthesis in Cornea; *Interest Category:* Corneal Disease; *Cost:* $29,857.

Project Director: Wood, Don, Ph.D.; *Grantee Agency:* University of Oregon Medical School, Portland, Oregon; *Grant Number:* EY 00660; *Title of Project:* Mechanisms of DMSO Toxicity; *Interest Category:* Visual Disorders; *Cost:* $37,914.

Project Director: Wood, Don, Ph.D.; *Grantee Agency:* University of Oregon Medical School, Portland, Oregon; *Grant Number:* EY 00661; *Title of Project:* A Study of Eye Lens Proteins; *Interest Category:* Cataracts; *Cost:* $55,094.

Project Director: Young, Francis, Ph.D.; *Grantee Agency:* Washington State University, Pullman, Washington; *Grant Number:* EY 00284; *Title of Project:* Growth Environmental Refractive Changes; *Interest Category:* Refractive Errors; *Cost:* $77,144.

Project Director: Zigman, Seymour, Ph.D.; *Grantee Agency:* University of Rochester, Rochester, New York; *Grant Number:* EY 00459; *Title of Project:* Lens Protein Relationships During Cataractogenesis; *Interest Category:* Cataracts; *Cost:* $54,137.

Project Director: Zuber, Bert, Ph.D.; *Grantee Agency:* Rush Presbyterian-St. Lukes Medical Center, Chicago, Illinois; *Grant Number:* EY 00398; *Title of Project:* Bioengineering Studies in Oculomotor Physiology; *Interest Category:* Oculomotor Disorders; Cost: $21,836.

Project Director: Zweng, Christian, M.D.; *Grantee Agency:* Stanford University, Stanford, California; *Grant Number:* EY 00318; *Title of Project:* Research in the Use of Lasers in Ophthalmic Diseases; *Interest Category:* Retinal Disease; *Cost:* $36,435.

Currently Active NEI Research Contracts
June 1972

Project Director: Becker, Bernard, M.D.; *Grantee Agency:* Washington University, St. Louis, Missouri; *Contract Number:* NIH-NEI-71-2514; *Title of Project:* Evaluation of the Effectiveness of Diphenylhydantoin (DPH) in Reversal of Recent Glaucomatous Field Effects; *Interest Category:* Glaucoma; *Cost:* $101,595.

Project Director: Laing, Ronald, Ph.D.; *Grantee Agency:* Boston University, Boston, Massachusetts; *Contract Number:* NIH-NEI-71-2513; *Title of Project:* Development of

Clinically Useful Methods of Estimating Retinal and Choroidal Blood Flow; *Interest Category:* Retinal Disease; *Cost:* $297,000.

Project Director: Maurice, David, Ph.D.; *Grantee Agency:* Stanford University, Stanford, California; *Contract Number:* NIH-NEI-72-2049; *Title of Project:* Design and Construction of a Prototype Fluorometer; *Interest Category:* Retinal Disease; *Cost:* $20,247.

Project Director: Sears, Marvin, M.D.; *Grantee Agency:* Yale University, New Haven, Connecticut; *Contract Number:* NIH-NEI-71-2512; *Title of Project:* Development of Drugs Useful in the Treatment of Glaucoma and Their Evaluation Both in Animals and Man; *Interest Category:* Glaucoma; *Cost:* $113,018.

U.S. VETERANS ADMINISTRATION, PROSTHETIC AND SENSORY AIDS SERVICE RESEARCH ON AIDS FOR THE BLIND

Eugene F. Murphy, Ph.D.
Chief

Prepared by: Howard Freiberger
Electronics Engineer

Research and Development Division
Prosthetic and Sensory Aids Service
Veterans Administration
252 Seventh Avenue
New York, N. Y. 10001

This summary was prepared March 15, 1972, for use in the 1972 BLINDNESS. The data are supplementary to similar materials appearing in earlier issues of the Annual. Only active projects are mentioned here. The "Total Cost" entry shows the cumulative cost from the inception date indicated to January 15, 1972. The "FY'71 Cost" is the amount expended between July 1, 1970, and June 30, 1971. These costs, representing reimbursements for the research work, are not always the same as obligation of funds to be made available for the projects.

Continuation Projects

PROJECT NUMBER	IDENTIFICATION DURATION AND COST	ACTIVITY ADDRESS	PRINCIPAL PERSONNEL	PURPOSE
V101 (134) P-71 Formerly V1005M-1253	Outputs for Reading Machines 4/1/57 to present Total Cost: $570,286 FY'71 Cost: $92,763	Haskins Laboratories, Inc., 270 Crown Street, New Haven, Connecticut 06510	F.S. Cooper, Ph.D. J. Gaitenby I. G. Mattingly, Ph.D.	To study audible outputs for reading machines for the blind and to develop the psycho-acoustic, linguistic, phonetic, electronic, and mechanical details necessary to achieve a first-rate output, i.e., some form(s) of machine-made

PROJECT NUMBER	IDENTIFICATION DURATION AND COST	ACTIVITY ADDRESS	PRINCIPAL PERSONNEL	PURPOSE
				speech not too different from natural speech. Data were gathered in 1971 on the reactions of a small group of users to synthesized speech.
V101 (134)P-75 Formerly V1005M-1914	Sensory Aids Subcommittee 3/31/65 to present Total Cost: *$31,075 FY '71 Cost: *$7,500 *Estimated	National Academy of Sciences, 2101 Constitution Ave., N.W., Washington, D.C. 20037	Dr. N. Guttman, Chairman A.B. Wilson, Jr., Exec. Director, CPRD	To provide advisory and consulting services regarding research programs in aids for the blind and for the deaf. To arrange meetings of specialists in appropriate fields and to publish minutes.
V101 (134)P-68 Formerly V1005M-1943	Personal-Type Reading Machines 9/12/58 to present *Total Cost: $1,054,777 FY '71 Cost: $102,122 *Includes $74,905 for 30 Visotoners and 10 Visotactors delivered to VA in 1969.	Mauch Laboratories, Inc., 3035 Dryden Road, Dayton, Ohio 45439	H.A. Mauch G.C. Smith	To develop a reading machine for the blind which is relatively portable, capable of independent use at higher reading speeds than possible with the optophone, and sufficiently low in cost that it may be acquired by an individual blind person. A prototype of the recognition machine with spelled-speech output was operated successfully in 1968. Three advanced models called Cognodictors were completed for evaluation in 1970. An improved Cognodictor was designed in 1971 and should be completed in 1972.

PROJECT NUMBER	IDENTIFICATION DURATION AND COST	ACTIVITY ADDRESS	PRINCIPAL PERSONNEL	PURPOSE
				Optophone type developments including a unit for testing binaural and stereo concepts have also resulted from this work. The Visotoner with audible output, and the Visotactor "B" with tactile output, are examples. A multicolumn tactile instrument called the Digitactor and an improved Visotoner are in the planning stage.
V1005P-9217	Obstacle Detectors for the blind 6/6/61 to present *Total Cost: $366,680 FY '71 Cost: $26,682	Bionic Instruments, Inc., 221 Rock Hill Road, Bala Cynwyd, Penna. 19004	J.M. Benjamin T.A. Benham D.R. Bolgiano N. Ali	To develop a typhlocane employing materials of superior mechanical properties, and fitted with three gallium arsenide laser systems: one to probe space ahead at the head and shoulders height to give warning of impending overhanging obstacles; a second to range ahead to give early warning through a tactile indicator of obstacles beyond cane reach; the third to monitor the terrain to give early warning of large dropoffs like stairwells and platform edges. A first operating model was demonstrated in Dec. 1966, an improved two-section col-

PROJECT NUMBER	IDENTIFICATION DURATION AND COST	ACTIVITY ADDRESS	PRINCIPAL PERSONNEL	PURPOSE
	*Includes $45,000 for 10 Laser Typhlocanes delivered to VA in 1969. Does not include funds for work done prior to 1961 by predecessor firms under earlier contracts but employing some of the same people.			lapsible model was built in 1967, and ten of the latest model were delivered in 1969 for use in mobility clinical application test programs. The model C-5 Laser Typhlocane was designed in 1971 and deliveries of some of these improved units are expected in 1972.
V1005P-977-A	Correspondence Courses — Training of Blind and/or Deaf-Blind 8/18/67 to present Total Cost: $18,664 FY '71 Cost: $4,255	Hadley School for the Blind, 700 Elm Street, Winnetka, Illinois 60093	D.W. Hathaway M. Butow	To develop, validate, and administer correspondence courses for training of blind and/or deaf-blind persons in the use of personal-type reading aids.
VI005P-5321 (Contract terminated)	Spelled Speech 11/1/60 to present Total Cost: $58,479 FY '71 Cost: None	Metfessel Laboratories, Los Angeles, Calif. 90043	M.L. Metfessel, Ph.D. (Deceased) C. Lovell, Ph.D.	To develop an audible output for a reading machine for the blind operable on a letter-by-letter basis. Part B of the final contract-termination report was received in November 1971.
INTRA-VA	Staff work in VA, R&D Div., PSAS	Research and Development Division, Prosthetic and Sensory Aids Service, 252 Seventh Avenue, New York, N.Y. 10001	E.F. Murphy, Ph.D. H. Freiberger	The work of the Division includes INFORMATION DISSEMINATION (papers in professional journals, correspondence with others in the field, maintenance of a reference collection, bibliographic activity,

PROJECT NUMBER	IDENTIFICATION DURATION AND COST	ACTIVITY ADDRESS	PRINCIPAL PERSONNEL	PURPOSE
				publication of a bulletin, arranging conferences, presenting talks), CONTRACT SUPERVISION, PLANNING, SUPERVISION OF CLINICAL APPLICATION PROGRAMS, and limited in-house RESEARCH
INTRA-VA	Clinical Application Program in Reading and Mobility Aids for the Blind 7/1/67 to present Total Cost: $78,399 FY '71 Cost: $26,715	Central Rehabilitation Section for Visually Impaired and Blinded Veterans, VA Hospital, Hines, Ill. 60141	J.D. Malamazian H. L. Lauer L. Farmer J. Whitehead	To transfer research results to clinical practice as rapidly as feasible; to train veterans and staff in the use of these new devices; to obtain information about the devices to aid in improving new designs. Work on the Visotoner, Laser Typhlocane, Ultrasonic Spectacles, and LR Pathsounder was done in 1971.
INTRA-VA	Clinical Application Program in Reading and Mobility Aids for the Blind 12/1/70 to present Total Cost: $25,799 FY '71 Cost: $12,177	Western Blind Rehabilitation Center, VA Hospital, Palo Alto, Calif. 94304	L.E. Apple W. Ekstrom R.R. Bennett	To transfer research results to clinical practice as rapidly as feasible; to train veterans and staff in the use of the new devices; to obtain information about the devices to aid in improving new designs. Work on the Visotoner, Laser Typhlocane, Ultrasonic Spectacles, and LR Pathsounder was done in 1971.

BIBLIOGRAPHY OF NEW TITLES RESULTING FROM VA RESEARCH CONCERNING BLINDNESS

V101(134)P-71 Haskins Laboratories, "Status Report on Speech Research," issues SR-24, SR-25/26, and SR-27 were published during this reporting period.

Cooper, Franklin S., Jane H. Gaitenby, and Ignatius G. Mattingly, "Audible Outputs of Reading Machines for the Blind," *Bulletin of Prosthetics Research*, BPR 10-15, pp. 241-246, Spring 1971 (Published c. November 1971).

V101(134) P-75 "Report of Fourth Meeting of Subcommittee on Sensory Aids," September 14-15, 1970.

"Report of Fifth Meeting of Subcommittee on Sensory Aids," December 12, 1970.

"Report of Sixth Meeting of Subcommittee on Sensory Aids," February 26-27, 1971.

V101(134)P-68 Mauch, Hans A., and Glendon C. Smith, "The Development and Evaluation of a Personal Reading Machine for the Blind," *Bulletin of Prosthetics Ressearch*, BPR 10-15, pp. 246-247, Spring 1971 (Published c. November 1971).

Smith, Glendon C., and Hans A. Mauch, "Summary Report on the Development of a Reading Machine for the Blind," July 1, 1970 to June 30, 1971, 65 pp., June 30, 1971.

Smith, G.C., and H.A. Mauch, "Abstract of Summary Report on the Development of a Reading Machine for the Blind," *Bulletin of Prosthetics Research*, BPR 10-16, pp. 177-178, Fall 1971 (Published c. March 1972).

V1005P-9217 Benjamin, J.M., Jr., D.R. Bolgiano, E.D. Meeks, Jr., and T.A. Benham, "Typhlocane with Range Extending Obstacle Sensing Devices," U.S. Patent 3,546,467 issued December 8, 1970.

Benham, T.A., J.M. Benjamin, Jr., and D.R. Bolgiano, "Fabrication of Obstacle Detectors for the Blind," *Bulletin of Prosthetics Research*, BPR 10-15, pp. 240-241, Spring 1971 (Published c. November 1971).

V1005P-977A Butow, Margaret, "Print that Plays a Tune," *NHSC News* (National Home Study Council), Vol. X, No. 1, pp. 4-5, January 1971.

V1005P-5321 Metfessel, Milton, and Constance Lovell, "Guidelines for Developing an Alphabet to Synthesize Spelled Speech," Part B, Summary Report to PSAS, VA, Metfessel Labs., 42 pp., c. November 1971.

INTRA-VA Freiberger, Howard, "Artificial Vision," book review in *Science*, Vol. 173, No. 4001, pp. 1014-1015, September 10, 1971.

Freiberger, Howard, "Deployment of Reading Machines for the Blind," *Bulletin of Prosthetics Research*, BPR 10-15, pp. 144-156, Spring 1971 (Published c. November 1971).

Freiberger, Howard, "Some Current Research Activities in Sensory Aids for the Blind," a compilation commenced in 1970 and updated periodically, 15 pp., unpublished.

Freiberger, Howard, "Reading Machines for the Blind, The Veterans Administration, and the Non-Veteran Blind," *AFB Research Bulletin*, No. 24, pp. 29-35, March 1972.

INTRA-VA

Lauer, Harvey, "Personal Reading Appliances for the Blind," mimeo, 11 pp., c. 1971 (Published also in *Braille Monitor*, National Federaion of the Blind, October 1971).

Lauer, Harvey, "Factors Retarding Sensory Aids Research for the Blind," mimeo, 10 pp., c. 1971.

Lauer, Harvey, "Sensory Aids for the Blind: Are They an Automatic Bonus or Needed Tools?" mimeo, 10 pp., c. 1971 (Published also in *Education of the Visually Handicapped*, AEVH, December 1971).

Murphy, Eugene F., "The VA-Bionic Laser Cane," *The Long Cane Newsletter*, Vol. IV, No. 5, pp. 13-19, November 1971.

PSYCHOLOGICAL TESTING AND BLINDNESS —A RETROSPECT

By Mary K. Bauman

In considering relationships between psychology and blindness we are considering two sides of a coin.

On one side we find a curiosity on the part of psychologists (and before psychology emerged as a science, on the part of philosophers) about how blind people learn, the nature of their mental content, and the quality of their emotional reactions. Because psychologists hoped that the experience of blind people could provide a key to certain theoretical questions, especially those related to formation of spatial concepts, most early books on general psychology refer to blindness in some way, an attention not shared by other disability groups.

On the other side of the coin we find a long and active interest on the part of educators, rehabilitation workers, and blind people themselves, in making every practical use of psychology to solve the problems of blindness. Few groups have so persistently sought and used psychological information, techniques and personnel to explain and reduce the disadvantages peculiar to their disabilities. When we consider the relatively small numbers in the blind population, it is truly remarkable how many blind people have allowed themselves to be interviewed, tested, trained and used in all sorts of studies and experiments of a broadly psychological nature. The experience of most psychologists is that complete cooperation will usually be given when a blind person is told that his assistance with a study or experiment may later help other people.

Although this paper will focus on the history of psychological testing of blind children and adults and will not attempt to review the many psychological studies of blindness and its effects, some sense of historical perspective may be found in listing a few of the early studies of blindness which just preceded development of psychological testing as we use it today in education and rehabilitation.

Studies of Blindness

Pintner[1] comments: "The latter half of the nineteenth century saw the establishment of modern psychology, and from the very beginning interest in the blind was manifested. It is not, however, so much an interest in the blind for their own sakes, as rather an interest in two or three aspects of the psychology of the blind in order to see what light may be thrown upon certain universal problems of general psychology. Most of these early studies cluster around the problems of space perception, touch sensitivity, and the sense of obstacles."

---

[1] R. Pintner, J. Eisenson, and M. Stanton, *The Psychology of the Physically Handicapped* (New York, 1941), p. 210.

Lowenfeld[2] tells us that: "The first systematic study dealing with psychological problems of blindness as such dates back to the experimental laboratory of Wundt where Theodor Heller conducted investigations which he reported in his *Studien zur Blinden-Psychologie* (1896)." Lowenfeld describes the conflicting theories of these early psychologists concerning how a blind person could, through touch, develop concepts of the shapes of objects or of the space within which he lived. They took their theories very seriously, did much arguing among themselves and sometimes even came to the conclusion that it could not be done at all. All this makes one wonder if Helen Keller had those psychologists in mind when she said, "While they were saying among themselves 'It cannot be done' it was done." How many things can be accomplished without vision is a still unfolding story.

Of particular interest was a theory, still shared by many laymen, that when one sense is lost the others become stronger and compensate. This belief in a "vicariate of the senses" was taken quite seriously by early educators although, as early as 1892, Sara Whalen[3] tried to set the matter straight by saying: "A person does not see with the auditory nerve, nor does he hear with sight; he does not taste with the sense of touch nor smell with the sense of taste, etc.; if that appears to be the case, it is a delusion. . . . Experience has shown that the perceptive faculty of the senses can be very much improved, that it is capable of considerable improvement by practice. . . . For this reason the sense still remaining to the blind, should be put to practice very often; by that means their receptive faculty will be improved."

Hayes[4] gives a good account of the numerous studies, including some of his own, which prove that Miss Whalen was right, and educators now concentrate upon helping children to use their remaining senses effectively. Indeed, "training in listening" has come into the curriculum as a specific study in many schools.

One of the most fascinating notions of compensation for loss of vision and one which persisted into the 1950's was called "facial vision," an ability supposedly possessed by some blind people to distinguish objects through a sense generally located in the face. This so-called "sixth" sense was one of the objects of Theodor Heller's studies and he concluded that it was made up of a fusion of sensations, some auditory and some the result of air pressure upon the skin.[5] In 1888, Swann had reported several homemade experiments from which he had concluded that there was, indeed, a "skin-sense." In the 1950's Worchel, Dallenbach, and their associates used some of the same procedures, but under rigidly controlled conditions, to prove that "facial vision" was entirely dependent upon hearing.

The interest of psychologists in comparing blind with sighted people has continued through the years. Sometimes it has resulted in the development of tests which could have broader application; sometimes it has clarified our interpretation of psychological findings from other sources. The following list, although far from complete, gives some picture of the varied expressions of this continuing desire to compare:

Holland, B. F., 1936, comparison of reactions to questions on a verbal intelligence test;

---

[2]B. Lowenfeld, "Psychological Problems of Children with Visual Disabilities," in *Psychology of Exceptional Children and Youth* (Englewood Cliffs, N.J., 1955), p. 227.

[3]S. Whalen, "The Vicariate of the Senses," in American Association of Instructors of the Blind, *Proceedings of the Twelfth Biennial Meeting* (1892), pp. 51-52.

[4]S. P. Hayes, *Contributions to a Psychology of Blindness* (New York, 1941).

[5]Pintner, Eisenson, and Stanton.

Brown, P. S., 1938, responses to an introversion-extroversion questionnaire;

MacFarland, D. C., 1952, comparison of maze learning ability;

MacFarland, D. C., 1956, comparison of work efficiency;

Axelrod, S., 1959, comparison on tactile and auditory tasks;

Jervis, F. M., 1960, comparison of self-concepts;

Rubin, E. J., 1964, comparison of abstract functioning;

Tillman, M. H., and Williams, C., 1968, comparison of associative characteristics – utilization of parts of speech.

Early Intelligence Testing

Naturally educators of blind children felt a more personal interest than did most scientists in the various discussions and studies of possible differences between the mental functioning of the blind and that of the sighted. For this reason, Miss Whalen's paper caused quite a reaction when it was presented at the meeting of the American Association of Instructors of the Blind in 1892. At the next biennial meeting, in 1894, James J. Dow, Superintendent of the Minnesota School for the Blind, urged that psychological measures be applied to ascertain the mental effects of lack of vision and a committee was therefore appointed to investigate this matter. The committee, several times reconstructed as years passed, seems to have accomplished very little, although occasional mention shows that concern about their assignment had not died.

Hayes[6] credits Dr. O. H. Burritt of the Overbrook School for soliciting Dr. Richard S. French, then Senior Teacher at the California Institution for the Blind, to speak on "The Psychology of the Blind" at one of the Round Tables at the 1910 conference of AAIB in Little Rock, Arkansas. His paper[7] shows thoughtful observation of the learning processes in his students but only vague plans for any actual study, although from his closing paragraph it is clear that he had high hopes:

> Psychology, or we should better say, the science of mind, is still young. . . . We are going to take a part in the building up of this grandest and most human of sciences; we are going to help make its foundations secure and its building lasting for all ages. And in return we are to have wiser methods of teaching, a more wholesome moral life in our schools, and to an extent not known before we are going to clean away the stigmata of blindness by helping the blind to make themselves in every way worthy of respect.

Fine as this idealistic dream was, credit for the first step toward use of psychological testing must go to more coldly practical motivation, the desire to separate from normal learners those who, in the parlance of the day, were feebleminded. Such separation was both to reduce the burden on teachers of mentally normal children and to provide more appropriate training opportunities for retarded pupils.

When a Paris ordinance in 1904 required the segregation of children of low mentality into special classes, no standard means of measuring mental ability existed. A

---

[6] S. P. Hayes, "Twenty Years of Research: Aims and Achievements," in American Association of Instructors of the Blind, *Proceedings of the Thirty-Third Biennial Convention* (1936), pp. 75-84.

[7] R. S. French, "The Psychology of the Blind," in American Association of Instructors of the Blind, *Proceedings of the Twentieth Biennial Convention* (1910), p. 86.

psychologist, Alfred Binet, and a physician, Th. Simon, quickly assembled a number of simple psychological tasks which they had been using in research with children, tried the tests in a few schools, and arranged them into groups related to age. These tests were published in 1905, and were revised in 1908 and again in 1911, in order to develop workable and generally reliable measures.

Evidently the need for such measures was great, for educators and psychologists in several other countries promptly translated and adapted the Binet-Simon scales to the needs of their own countries. In the United States there were four major translator-adaptors: H. H. Goddard, who just prior to his 1910-11 adaptation began work at the Training School for the Feebleminded at Vineland, New Jersey; Kuhlmann, who eventually developed a group test; Yerkes and Bridges, who developed a point scale; and Terman, whose Standard Revision did not appear until 1916 but soon dominated the field. All of these had their impact upon testing of blind children.

Like the Parisians, Robert B. Irwin, then supervisor of the educational program for visually handicapped children in the public schools of Cleveland, Ohio, was concerned about the number of seemingly retarded children in that program. For this reason, and for the general values which tests might have, he arranged to spend the summer of 1914 working with Dr. Goddard in Vineland. His hope was to develop a Binet scale for blind children based on Goddard's adaptation, but it quickly became evident that so large a task could not be completed within a summer. With Goddard's assistance, Irwin did eliminate from the Binet Scale those test items which required vision, borrowed from other sources tasks to replace the tests thus lost, and changed the age levels at which certain other tests were placed in the scale.

During this summer Irwin also attempted to translate some of the visual tasks of the Binet into tactual media. In doing this work, he was assigned an assistant named Samuel C. Kohs, who became so interested in the potential of blocks as test material that he built his doctoral thesis, done at Stanford University under Terman, around what is now well known as the Kohs Block Design Test. As will be described in a later section of this paper, that test has been returned to its source of inspiration, work with the blind, through the adaptations of Ohwaki, and Suinn and Dauterman.

By the end of the summer of 1914, Irwin had tried out his adaptation of the Goddard-Binet scale with some forty to fifty subjects, chiefly in the Sunshine Homes for blind children. He and Goddard had guessed at the levels at which test items were placed and some of these guesses already appeared to be incorrect, but he felt that the sample was too small to make changes at that time. Consequently, he had record sheets printed and arranged to have the tests given to visually handicapped children in Toledo, Cleveland and Pittsburgh during the following school year.

Meanwhile, the trustees of the Ohio State School for the Blind had become concerned about the presence in that institution of a large number of children who did not seem to meet the legal requirement for admission, i.e., being "suitable in age and mental capacity to receive instruction by the methods there pursued." Irwin suggested that psychological evaluation might both assist in eliminating the definitely feebleminded and stimulate development of more appropriate training for those who remained. At Irwin's suggestion, Dr. Thomas H. Haines, then Clinical Director of the Bureau of Juvenile Research in Columbus, Ohio, and Professor of Psychology at Ohio State University, was retained to direct testing at the school.

Dr. Haines had been working with adaptations of the Binet-Simon tests in the examination of juvenile delinquents and became convinced that a point scale was both

more efficient and more informative than an age scale. In an age scale, test items are assigned to specific years and are presumed to represent what the typical child of that age can do; however, as Irwin found, a very large population is needed to determine accurately at what age a particular test item belongs and until that accurate determination has been made, the validity of the scale is in question. In a point scale, test items of like nature are usually grouped together for ease of administration and the final score is the sum of correct responses on the entire scale; this final score can then be compared with age norms (i.e., the typical score of children of a given age) to determine whether the individual child tested is at, above, or below expectancy for his age.

Haines therefore decided to design a new test, The Point Scale for the Blind, inspired by the Yerkes-Bridges Point Scale but incorporating much of the material Irwin had developed. This was used with the students at the Ohio State School for the Blind in April and May of 1915 and reported in two publications by Haines early in 1916. As he had anticipated, a small number of mentally defective individuals were found; the school was indeed being used as an asylum for these persons whose ability was so limited that they could profit little from its educational procedures.

Of far greater importance, however, to the education and rehabilitation of the blind was his clear evidence that, on the average, blind children very well matched sighted children in mental ability. On a few test items his normally seeing comparison group did a little better than the blind children did, but blind subjects were superior to the sighted on others. His work also pointed up the need for tactual, social and broadly practical experience in the education of blind children.

The Hayes Era

Though well aware that many people would have thought his situation as Superintendent of Overbrook School enviable, O. H. Burritt approached the new year of 1916 with some feelings of dissatisfaction.

He was concerned about the number of very slow students, essentially non-learners, who profited very little by the academic offering of Overbrook and he had tried to use psychology to achieve a better understanding of the problems of these young people. He had been active in meetings at the American Association of Instructors of the Blind where these problems were discussed and he had hoped that Dr. French, in his 1910 convention paper, might offer solutions; but, as we have already noted, that paper offered more promises than solutions. Burritt knew that some application of psychological tests was being pioneered in Ohio.

He had also been attending, from time to time, meetings of a small group of educators and administrators concerned with the feebleminded; this group usually met at the Vineland Training School with Dr. H. H. Goddard as their leader. Burritt therefore decided to prod Goddard to some new effort toward testing blind children, perhaps some application of Goddard's earlier work with Irwin. Goddard was unable to accept the challenge in person but agreed to try to find someone to help Burritt.

Fortunately, Goddard was scheduled to speak to a group of experimental psychologists early in 1916 and he presented the matter on this occasion. Much of the history of psychological work with the blind hinges upon the fact that in the audience that day was a popular young professor from Mount Holyoke named Samuel Perkins Hayes.

Dr. Hayes was a quite remarkable person. Relatively slight in stature, he was a dynamo of energy, a delightful personality, and a man of inquiring and well disciplined intellect. After undergraduate work at Amherst, he had attended Union Theological Seminary until he became convinced that his real interests and goals would best be served by psychology, not theology. After a year of study in Germany, he took his doctoral work at Cornell under the famous Titchener. His doctoral dissertation was concerned with color blindness and he therefore developed some interest in visual defects and their psychological effects. He decided to see what he could do about the Overbrook School problems which Dr. Goddard described. Conversations between Burritt and Hayes culminated in the appointment of Dr. Hayes as Director of Psychological Research at the Overbrook School, a position to which he was to give roughly one-fourth of his professional time.

At Dr. Goddard's suggestion, Miss Katherine Roese, a graduate of Cornell who had just spent a year at Vineland, was engaged as the resident tester at the Overbrook School where she started work in the fall of 1916 under Dr. Hayes' direction. It was decided that she would use the version of the Binet which Goddard and Irwin had worked out two years earlier rather than the point scale Haines had favored. The chief reason for this decision was the fact that Haines, like Drummond in England, placed great emphasis upon the effects of partial vision and age of visual loss, and consequently based his norms only on individuals totally blind from birth or infancy. Hayes immediately recognized that there was need for a test applicable to all the children in a school for the blind, even though some had partial vision and some became blind as late as their teens.

Hayes was successful in arranging with Mount Holyoke College for a half year's leave of absence and spent the spring of 1917 in Philadelphia, learning more about blindness, becoming familiar with Overbrook School, and planning studies to be carried out in the succeeding years. He concluded:[8]

> Three general lines of work seemed to be especially needed:
>
> a. The development and application to blind children of methods of testing intelligence and measuring attainment in school subjects.
>
> b. The application of modern laboratory methods to the solution of debated questions in the psychology of blindness.
>
> c. The development and application to the blind of tests for vocational guidance.

Interest in psychological testing also took concrete form at the Perkins Institution and Massachusetts School for the Blind in the spring of 1916. Mr. Edward E. Allen, who had recently come to Perkins from Overbrook, engaged Miss Edith Taylor, a graduate of Vassar College, to administer tests. In view of the close ties between Burritt and Allen, and between Overbrook and Perkins, it was soon decided to coordinate the work in the two schools under the direction of Dr. Hayes. By 1918, Hayes carried the title of Director of Psychological Research in both schools and divided his time between them. The tests he adapted were also used in the New York State School for the Blind at Batavia, and test results from these three schools were presented at the convention of the American Association of Instructors of the Blind in Colorado Springs in 1918.

During the next several years the psychologists from Overbrook and Perkins tested many pupils in seven other schools for the blind: Baltimore, Hartford, Louisville, New York, Pittsburgh, Staunton, and Brantford, Canada. "By 1923 the tests had been given to more than 1,200 blind or nearly blind children and the time seemed ripe to

---

[8] S. P. Hayes, *Ten Years of Psychological Research in Schools for the Blind* (Philadelphia, 1927), p. 4.

attempt a standardization of the tests and to distribute a Guide for the use of competent persons in schools and clinics where it might be necessary to examine children who had not enough vision to take the Binet Tests in the ordinary form."[9]

Often known as the "scissors and paste" Guide, this is certainly one of the most unique books in the history of work with the blind. To make each copy, Hayes used as the base Terman's *Condensed Guide for the Stanford Revision of the Binet-Simon Intelligence Tests* published by Houghton Mifflin in 1920. If the adaptation for the blind was minor, it was written in by hand; if the change was major, the adapted test item was typed and pasted into the booklet. Thus the Goddard version of the Binet gradually evolved through changes made by Irwin and Hayes into a well established procedure which was further adapted to the newer version of the Binet developed by Terman.

By 1930, psychological work with the blind graduated to its own printed manual. During the seven intervening years Hayes had done a great deal of analysis of test items, comparisons with the results for seeing children, studies which compared individual schools with the total results, and development of new items. He was ready to provide the field with a tried and proven instrument. In the Preface to his new *Condensed Guide* he tells the story:[10]

> The 1923 Guide was widely distributed and seems to have served its purpose fairly well. Now, however, further study of the detailed results and the accumulation of additional data through the use of the Guide with 746 more children, together with the trial of a series of supplementary tests with 418 pupils in schools for the blind, have made it possible to present a rearrangement of the tests which should be far more satisfactory. In 1923, too little acceptable material was at hand to provide six tests for all the year groups; and quite a few tests were put into year groups later than those in which Terman located them for the seeing in order to get a scale which would give a normal distribution of intelligence quotients. It is now possible to give a full complement of tests, with some alternates, and to present an arrangement much closer to Terman's. Also, Terman's kindness in allowing this Guide to be printed insures a much more convenient book than the "scissors and paste" Guide of 1923.

The 1930 *Guide* was widely used but several difficulties with it gradually became evident. Since children were often retested, some recalled items from previous testing and, particularly when students discussed the answers, the scores tended to be spuriously high. Some totally new test material was badly needed to avoid this. Experience also showed that the 1930 Hayes adaptation of the Binet was poorly standardized at both the low and high ends, largely because the number of children upon whom standardization was based were too few. Finally, in 1937, the Terman-Merrill Revision of the Binet appeared, a test far superior to the 1920 version on which Hayes' earlier work was based.

In 1942 Hayes therefore both recommended the Wechsler Verbal Scale as an alternative to any form of the Binet and developed his Interim Hayes-Binet based on the 1937 Terman-Merrill edition. Hayes used the description "Interim" because he feared test items might not be correctly placed and that with further study he might find that corrections were required. He continued to collect data on the Interim Hayes-Binet and on the use of the Wechsler with blind youth, presented a number of papers which shed light upon the interpretation of the test, but never quite managed to complete a revision. Therefore, even today, some psychologists are still using the Interim Hayes-Binet. To those who are familiar with it, and therefore able to compensate for its defects by their own experience, it has served well for thirty years. Its content is now sadly dated,

---

[9] *Ibid.*, p. 8.

[10] S. P. Hayes, *Condensed Guide for the Stanford Revision of the Binet-Simon Tests: Adapted for Use with the Blind* (Watertown, 1930), p. 4.

however, and those psychologists who are devoted to some version of the Binet look with longing to Carl Davis who promises to provide a totally new adaptation of the latest Stanford-Binet.

Hayes also had a very significant impact upon the testing of achievement, of interest and, to a smaller extent, of personality; these contributions will be discussed in other sections of this paper.

Monumental as his work in test development and evaluation was, Hayes' influence might have been modest were it not for several other ways in which he pretty much dominated the growth years of psychology related to blindness.

He was a true scholar in the sense that he constantly restudied, checked and evaluated his own work. Wherever testing was done under his influence, test results were funneled back to him and he promptly had them analyzed, often by his students at Mount Holyoke. The result was a stream of papers and lectures in which results were constantly updated. The list of his publications is immense.

He also constantly talked about his work. Not only as a professor at Mount Holyoke but in lecture series at Harvard and at the University of Pennsylvania he spread the interest in psychological work with the blind. He appeared at many conventions both in the United States and abroad. No other psychologist in our field has had so wide an audience. In 1951, under his influence, the First Regional Conference on Mental Measurements of the Blind was convened at Perkins; here formal papers, demonstrations and discussions provided opportunity for some fifty people to communicate their experiences and their needs in the area of testing.

Many of those who came into the field of psychological testing of the blind did so because they happened to be students under Hayes, especially at Mount Holyoke and Harvard. His enthusiasm naturally attracted capable students who wanted to enter a new and promising field and a number of the names of current leaders in our work would also be found on a list of his former students. Hayes was always willing to share what he knew, was a natural teacher for all who turned to him with test-related problems. In the early days he sent examiners, trained by him, into many other schools, there to establish psychology as an honored contributor to education.

Intelligence Testing after Hayes

Little that is really new has been added to verbal testing of blind persons since the Wechsler Scales were introduced. Here, at last, was material which could be used with blind and sighted alike without a significant change so that the old struggle to equate verbal IQs of the blind with those of the sighted ceased. Greatly supporting the use of the various Wechsler Verbal Scales have been many studies of blind children and adults in which Wechsler-Bellevue, WAIS and WISC Verbal IQs have correlated quite satisfactorily with a number of criteria. Bauman's study[11] in 1967 showed that some form of the Wechsler Verbal Scales was administered to roughly 9,000 visually handicapped children and adults each year.

The literature related to use of the Wechsler Verbal Scales with the blind consists chiefly of comparisons with other tests or comparisons of blind and sighted subjects,[12, 13]

---

[11] M. K. Bauman, *A Report and a Reprint: Tests Used in the Psychological Evaluation of Blind and Visually Handicapped Persons and A Manual of Norms for Tests Used in Counseling Blind Persons* (Washington, D.C., 1968).

[12] C. J. Davis, "New Developments in the Intelligence Testing of Blind Children," in *Proceedings of the Conference on New Approaches to the Evaluation of Blind Persons* (New York, 1970), pp. 83-92.

[13] S. P. Hayes, "Measuring the Intelligence of the Blind," in *Blindness*, ed. P. A. Zahl (New York, 1962).

studies of predictive validity, and cautions on interpretation such as the brief but excellent discussion by Lowenfeld.[14]

Between 1935 and 1939, Davidson and Brown, working at the Institute of Juvenile Research in Chicago, constructed a point scale for the mental measurement of pupils with all degrees of visual defect from the totally blind to the partially sighted, and with norms based upon what are described as comparable groups of seeing children. The test provided two equivalent forms, each with ten verbal subtests of familiar content. Theoretically this test should have had advantages, especially for examiners who prefer a point scale, but it never achieved much popularity.

As more schools became interested in mental screening there was naturally a desire to adapt group mental tests to use with blind children since such procedures are very much less expensive than individual testing. As early as 1921 Hayes[15] had included in his self-survey materials for schools for the blind instructions for giving the Pressey Group Point Scale and the Pressey Cross-Out Tests. In 1931 Sargent reported the adaptation of the Otis Classification Test; in 1939, Fortner reported similar work with the Kuhlmann-Anderson material. In 1944 some of the Pintner General Ability Tests were put into braille and their use was reported by Hayes.[16] In 1962 Pearson reported norms for the School and College Ability Test in Grades four, five and six but stated that her sampling had limitations which could decrease the validity of these norms. On the whole, group tests have not had wide application and their use with blind adults has been particularly limited by the problems so well described by Hayes.[17]

This paper will not attempt to describe the use of tests in countries other than the United States, but we should note that, probably because of the common language, there has been some sharing of items by tests developed in England and in the United States. Drummond and Haines probably had some communication with unknown effect upon their point scales. Langan built her 1945 scale on the 1937 revision of the Stanford-Binet. In 1956, the Williams Intelligence Test borrowed items from the Stanford-Binet and the WISC, among others, and was standardized on nearly half the visually handicapped children in British schools for the blind and partially sighted. Davis, in turn, reports that he has taken two items for the newest of our intelligence tests from the Williams scale.

This newest of intelligence tests, the Perkins-Binet Tests of Intelligence for Blind Children, is still not available at this writing. However, Davis[18] reports that its items have been taken primarily from the 1960 and 1937 Stanford Revisions of the Binet-Simon Tests and that approximately one-fourth of the items are non-verbal. Two forms of the test provide six items at each age level, from age three on Form U and age four on Form N through age eighteen on both forms.

Achievement Testing

During their early years schools for blind children developed their own curricula and set their own standards. To offer a blind child any formal education was so rare that almost any level of attainment was thought, by many, to be remarkable. However, by the end of the last century concern was being expressed for meeting the standards of sighted schools. At the Fifteenth Biennial Convention of AAIB in 1898, William B. Wait[19] told of how the two schools in New York used examination questions prepared by

[14] B. Lowenfeld, *Our Blind Children: Growing and Learning With Them* (Springfield, 1956), pp. 217-218.
[15] S. P. Hayes, *Manual for Self-Surveys in Schools for the Blind* (Philadelphia, 1921).
[16] S. P. Hayes, "Measuring the Intelligence of the Blind."
[17] *Ibid.*, p. 169.
[18] C. J. Davis, "New Developments in the Intelligence Testing of Blind Children."
[19] American Association of Instructors of the Blind, *Minutes, The Fifteenth Biennial Convention* (1898), p. 53.

> the central body of school professors of the University of the State of New York. . . . The value of this examination is this, that it is the same examination that is given in all of these subjects in the high schools and academies upon the same day, at the same hours and under the same conditions. This brings our pupils upon a plane where they are tested by the same standards as the pupils in the other schools of the state. We began ten years ago with trepidation, with a single pupil, a young man who took the first year examination in Greek and successfully passed it. In June last fifty-four different pupils took these examinations successfully . . . in seventeen different subjects.

This may be regarded as a first step toward achievement testing.

Pitney credits Hayes with being the first to attempt measurement of the educational attainment of blind students by standard achievement tests and Hayes gives this account:[20]

> The first standard achievement test to be put into braille was a simple reading test (published at the Overbrook School in 1918) and it proved the possibility of using with blind children standard tests constructed for the seeing but it brought to light great differences in reading rate and in comprehension within grades and in groups selected according to years of school experience and mental ability. It also showed that in general blind children read only about one-third as fast as seeing children, a fact of great importance in adapting timed tests in braille.

Great impetus was given to achievement testing by the appointment, at the 1918 AAIB convention, of an efficiency committee charged with recommending modifications in the curriculum in schools for the blind.

To gain information for the use of this efficiency committee, Dr. Hayes was employed to direct psychological evaluations in seven schools in 1919 and 1920 – those at Baltimore, Batavia, Hartford, Overbrook, Pittsburgh, Staunton and Watertown. Hayes visited each school himself, talked to the staff about the aims of psychological testing, and arranged for a program through which his assistants could obtain valid results. The assistant then remained in each school for three to four weeks giving group tests of intelligence and achievement to all students from fourth grade up and giving individual tests of intelligence to as many children as time allowed. At the Baltimore (Overlea) convention of AAIB in 1920,[21] the results of this survey were reported and discussed with the result that superintendents of other schools requested similar surveys.

To make it possible for distant schools to use the tests in a standard way, Hayes prepared a pamphlet entitled *Manual for Self-Surveys in Schools for the Blind*, which was issued and distributed from Overbrook in 1921. This manual provided exact directions for administration and scoring of tests; interpretation of the tests was facilitated by a supplement published in 1925.

Maxfield, later to be so well known for the evaluation of social competency, in 1927 provided a manual for the administration of certain reading and spelling tests, shortly to be followed by a considerable study of the reading of blind children. The year 1928 also saw the initiation of *The Teachers Forum for Instructors of Blind Children*, a journal which published a series of articles on achievement tests and their application during the next decade when the testing movement extended beyond the fundamentals to such areas as music and foreign languages.

---

[20] S. P. Hayes, "An Historical Review of Achievement Tests for the Blind," *Outlook for the Blind*, 24 (1948), p. 300.

[21] S. P. Hayes, "Mental and Educational Survey in Seven Schools for the Blind," in American Association of Instructors of the Blind, *Proceedings of the Twenty-Fifth Biennial Convention* (1920), pp. 10-17.

The popular New Stanford Achievement Tests were put into braille by Hayes and five equivalent forms were made readily accessible to schools on quota from the American Printing House for the Blind, further encouraging widespread use. With each new edition of these Stanford Tests, the adaptation for blind children became more sophisticated. Davis and Nolan have contributed standards and procedures which were applied in the adaptations of Forms X and W of the Stanford Tests and the adaptation of the Sequential Tests of Educational Progress (STEP). They show that a great deal of careful work and complex statistical study are necessary to a good adaptation, but the catalogue of the American Printing House for the Blind still lists some achievement tests which lack that thorough preparation.

Achievement testing of blind children has become a respected routine in most schools. The application of achievement measures to blind adults is much less frequent. Most achievement tests are in braille; without a solid foundation in at least the reading thereof, the tests cannot be used. Since a rather small number of adults who lose their vision after the school years ever attain a good command of braille, the results of achievement tests would, in their cases, be greatly lowered by their lack of facility in braille. Even when the individual claims competency in braille, achievement testing is rarely used with adults because it requires a great deal of time and could scarcely be handled in less than several days of testing time. Only in the school setting is it feasible to schedule an hour or two each day for more than a week in order to complete the battery of achievement tests.

Vocational Guidance and the Testing Movement

Although the very earliest efforts to educate blind children centered in the academic fundamentals, educators soon broadened their concern to preparation for life and, especially, for employment. As early as 1924, Florence Birchard discussed vocational guidance at the AAIB conference, but this was guidance through counseling, work tryouts, and vocational training with no mention of the use of tests. In 1930, Meyer discussed the responsibility of the school for vocational guidance but the content of his paper more nearly fits vocational training than what we now call vocational guidance.

A committee on vocational guidance was established within the American Association of Workers for the Blind in 1933 but it accomplished little until 1937. In that year the committee, chaired by Benjamin Berinstein, with Albert G. Cowgill and Stetson K. Ryan as members, reported that it had set up what it regarded as minimum standards for a vocational guidance program. It then sent questionnaires to all residential schools and to a number of public school classes. Replies were received from forty-nine residential schools, of which eleven claimed to have vocational guidance programs. Replies were also received from seventeen public school classes, of which six claimed to have vocational guidance programs. The committee report continues as follows:[22]

> Taking the program developed by the Committee as above set forth as a minimum, we find that no residential school and no public school class reporting to the Committee has a vocational guidance program. . . . In approaching vocational guidance for the adult blind the Committee was entering virgin territory. No evidence has been found of any study of vocational guidance for the adult blind nor does it appear that the possibility of scientific vocational guidance for this group was seriously considered prior to 1933. . . . The Committee has been unable to develop a program for the vocational guidance of the adult blind. The factors involved are rather different from those involved in the vocational guidance of blind children, and the Committee does not feel that it has sufficient experience in its own membership to warrant drawing the conclusions that must be drawn before a suitable program of vocational guidance for the adult blind can be developed.

[22] "Report of the Committee on Vocational Guidance," in American Association of Workers for the Blind, *Proceedings of the 17th Biennial Convention* (1937), pp. 301-312.

Frampton[23] says that the vocational guidance program at the New York Institute for the Education of the Blind grew out of a recommendation, made in 1939, by the Bureau of Physically Handicapped Children of the New York State Education Department. By 1943 that program included use of tests for intelligence, achievement, social adjustment, aptitude, and diagnostic and remedial purposes. The list of tests includes not only such standard procedures as the Hayes-Binet, the Wechsler and various achievement tests, but items taken from industry, from daily living (such as shaking hands or dialing a telephone), and from mechanical aptitude batteries for the sighted.

The Perkins School published *Vocational Aptitude Tests for the Blind* in 1946 but several accounts of the guidance program there emphasize much more academic testing and less use of concrete tasks.[24,25] Thus each school has incorporated into its guidance process a combination of the child's history, his academic record, his student activity record, and at least some test results. Some schools still make only limited use of tests and depend upon the state rehabilitation agency for testing service.

While the broad impact of the guidance movement upon testing blind students has been to encourage practical application of an increasing variety of tests, it has to some extent blended into the rehabilitation movement.

The Influence of Rehabilitation upon Testing

The first publicly supported program for the vocational rehabilitation of the physically disabled was initiated in 1920. In 1935 this activity was incorporated in the Social Security Act and provided greater financial support. Yet Dabelstein reports that between 1935 and 1943 only 1,779 blind persons had been rehabilitated into employment. We can be reasonably sure, on the basis of the report of the AAWB vocational guidance committee previously quoted, that none of them received the benefit of psychological study.

As this country foresaw its almost inevitable involvement in World War II many vocational training classes for adults were initiated around the country, usually as defense training classes. After Pearl Harbor, much larger numbers of adults were entering these classes but many were also either dropping out or being dropped because of lack of ability to profit by the special courses offered. In Philadelphia a mass vocational guidance program was set up to improve the match between the abilities and interests of the trainee and the content of each course. This program, called the Trainee Acceptance Center (because admission to many of the defense training courses required an approval from the TAC) attempted, on the basis of three to six hours of testing plus brief counseling, to direct potential trainees into the courses and jobs best suited to them.

Early in the summer of 1942 a blind man came to the TAC and requested testing, saying that he wanted to enter defense training and ultimate employment in a war-related industry. Bauman, who was directing the psychometric work at the TAC, was somewhat familiar with the Hayes-Binet and naturally turned to Dr. Hayes to learn if there were other tests for the blind which could be used in the vocational guidance of adults. In essence, the answer was "no."

---

[23] A. R. Blackburn, C. R. Athearn, and M. Shoesmith, *Report on the Vocational Training and Guidance Program of the New York Institute for the Education of the Blind* (New York, 1943).

[24] C. J. Davis, "Guidance and Vocational Counseling," in *The Oslo Meetings: Proceedings of the International Conference of Educators of Blind Youth* (1957), pp. 91-108.

[25] C. J. Davis, "Application of Guidance Principals in a School for the Blind," in *Guidance Programs for Blind Children* (Watertown, 1959), pp. 53-61.

During the 1930's several of Dr. Hayes' students had tried to test the manual and mechanical abilities of blind persons by adapting tapping and card sorting tests from the Minnesota battery, the Kohs Block Design Test, Whipple's aiming and steadiness tests, the O'Connor Finger Dexterity, a cube test used in the Army, plus two original tests. One of these original tests was a series of six cubes cut to form a graded series of progressively more difficult patterns; the second was based on a piano keyboard and seems designed chiefly to test orientation in space. The students found it difficult to obtain adult subjects and saw no possibility of validating their work in terms of success on jobs, so they soon abandoned the project.

In 1940 a somewhat similar study was made by Dr. Stevenson Smith at the University of Washington. Since Dr. Smith's work was done at the request of the supervisor of the Division for the Blind in the State of Washington, opportunity for practical application of his work presumably existed, but the study seems never to have gone beyond an experimental stage.

Both the Mount Holyoke group and Dr. Smith stressed in their findings the need for a tie-in with industry in order to validate test results. It looked as if this might be possible at the TAC since that Center's test results on sighted workers were already familiar to many employers in the Philadelphia area and a spirit of cooperation existed between the TAC and industry. Bauman therefore felt that she could best serve blind clients if she could use with them at least some of the same tests regularly used with the sighted; the ability of the blind could be expressed in terms already familiar to employers.

The two tests which best fitted this need were the Minnesota Rate of Manipulation and the Pennsylvania Bi-Manual Worksample. In her initial studies she also used several other mechanical tests from the TAC battery and two of those tried at Mount Holyoke. Her first need was to establish at least rough guidelines for adapting administration of these tests to blind workers. In her search for people who might know of material or literature related to guidance of adults she telephone the Overbrook School for the Blind and made a very fortunate contact with O. E. (Barney) Day, then an Overbrook employee with responsibility for helping graduates find employment. Mr. Day persuaded nineteen of the Overbrook graduates who were already in industrial jobs to give their time to taking Bauman's battery of tests – and since America at war was then working a long six-day week, this meant that these people generously came to the TAC Sunday after hot Sunday during the summer and fall of 1942. Together they set test administration guidelines so sound that they have never required significant change and they taught Bauman some fundamentals about blindness! A large group of the older students at Overbrook School also participated in much more time-consuming studies of learning curves.

By the Twentieth Biennial Convention of the American Association of Workers for the Blind in 1943, Bauman was able to report rough standards for the interpretation of a battery of tests plus some evidence that this battery provided a kind of information not available through verbal testing. By 1945 she had evaluated her battery in terms of sex, age, amount of vision and some validity data, but was anxiously warning that "vocational testing in general, and testing of the blind in particular, is still so inexact that it can be safely used only by a person with sound psychological training and good clinical experience."[26]

---

[26] M. K. Bauman, "Studies in the Application of Motor Skills Techniques to the Vocational Adjustment of the Blind," *Journal of Applied Psychology*, 30, 2 (1946), p. 154.

Although Bauman's initial work related to measures of manual dexterity, she emphasized the need to study the total individual. In 1947 DiMichael prepared for the Office of Vocational Rehabilitation a manual of psychological tests recommended for use in the vocational rehabilitation of blind adults, listing the Wechsler-Bellevue, Interim Hayes-Binet, Kuhlmann-Anderson, Otis Classification Test, and Pintner General Ability Tests, the latter three in braille. As manipulative tests he listed the Minnesota Rate of Manipulation and the Pennsylvania Bi-Manual Worksample, as an interest measure the Kuder, and as personality measures the Minnesota Multiphasic Personality Inventory and the Neyman-Kohlstedt Diagnostic Test. Short sections of the pamphlet also discussed brailled achievement tests and the possible adaptation of other tests for the sighted. This publication set the standard for testing blind adults in the many rehabilitation agencies across the country and had a significant impact upon the use of psychological tests with adults. Shortley reported that in 1947 "21 out of every 100 blind clients were given psychological testing services."[27]

The year 1947 also saw the first national conference on the Psychological Diagnosis and Counseling of the Adult Blind, held at the University of Michigan and co-sponsored by the Office of Vocational Rehabilitation of the Federal Security Agency, the Michigan Division of Services for the Blind, and the Institute for Human Adjustment at the University of Michigan. The success of this conference, not only as measured by its meetings but as measured by the publication of its proceedings,[28] set a significant pattern for the co-sponsorship of a number of other conferences in the field of rehabilitation during the last several decades. The academic psychologists and theoreticians, the developers and users of psychological tests, and the rehabilitation counselors and placement officers directly serving clients shared problems and solutions to problems, explained what each had to offer and how all could work together to improve the opportunities of blind adults for rehabilitation.

One outgrowth of that conference was the National Psychological Research Council for the Blind, a small group of representatives of psychology, education and rehabilitation who attempted to improve the application of psychology to problems of rehabilitation. Their major project was publication of *A Manual for the Psychological Examination of the Adult Blind*, prepared by Bauman and Hayes, and providing detailed instructions for use for a more extensive list of tests than DiMichael's 1947 pamphlet had listed. Since this publication was planned for use of psychologists unfamiliar with blindness and, perhaps, with rehabilitation, it also included basic information about blindness and a section by DiMichael on "Characteristics of a Desirable Psychological Report to the Vocational Counselor." Although that manual is twenty years old and cannot include the many improved tests and techniques developed during those years, it is still the only publication purporting to be a manual for the psychologist new to work with the blind, and copies of it are still requested by newcomers to the field.

During these early years the test scores of blind clients were evaluated by comparison of the individual with norms for sighted groups. In part this resulted from the fact that it takes a very long time to gather enough data to develop norms based on blind clients, especially on tests where norms should be divided by sex, age and amount of vision, because all of those factors may affect test performance. The continued use of sighted norms was encouraged by placement officers who wanted to be able to describe the abilities of blind workers in terms of the test performance of the sighted; when you

---

[27] M. J. Shortley, "Psychological Tests for the Adult Blind in Vocational Rehabilitation," in American Association of Instructors of the Blind, *Proceedings of the 39th Stated Meeting* (1948), p. 216.

[28] W. Donahue and D. Dabelstein, eds., *Psychological Diagnosis and Counseling of the Adult Blind* (New York, 1950).

try to get a man a job, you do it on the basis of his being a good worker, not on the basis of his being a good *blind* worker.

By 1958, Bauman had collected (with some data contributed by other psychologists) test results on slightly more than 4,000 blind persons. With the support of the American Foundation for the Blind, this material was analyzed statistically and norms for the dexterity tests and for Bauman's personality inventory were published,[29] resulting in the first normative material based on large numbers of blind adults so that the differences related to age, sex and amount of vision could be delineated. It is generally agreed that separate norms are not needed for the Wechsler Verbal Scales or for interest inventories.

How valid are test results for blind persons? Unfortunately, it is difficult to prove high levels of validity for vocational tests in general, not always because the tests are poor but because comparable data on job success are difficult to obtain for large enough numbers to make statistical treatment meaningful. Although not intended specifically as a validation of tests, the study of adjustment to blindness[30] carried out by a "grass roots" committee of workers in six states from 1950 to 1953, provided strong evidence that the tested characteristics of successful and unsuccessful rehabilitation clients were, on the average, significantly different. A follow-up of the individuals in that first study, made roughly fourteen years later,[31] provided some correction factors, as it were, but reaffirmed the predictive value of test information if considered within a pattern of personal, educational and work history by a careful and experienced clinician.

A more recent follow-up study by Scholl, Bauman and Crissey attempted to resolve the difficulty in relating test results to specific jobs by setting up as criteria the percentage of time worked, the annual income of the worker and a socioeconomic index for occupations. These criteria permit the pooling of data from workers in many different jobs but destroy the natural relationships between specific tests and specific jobs. For example, very different levels of social competency are required for success as a salesman and success as a darkroom technician; relating scores on a test of social competency with success in such different fields of work naturally results in zero reliability. The same could be stated with regard to scores on interest subtests and even with regard to scores on dexterity tests, since some jobs require a great deal of dexterity and others very little. Not too surprisingly, then, this study shows strong predictive value only for the Wechsler, since learning ability would be a factor in success on any job.

The literature also shows a small but steady stream of articles presenting new tests or batteries of tests or providing limited evaluations of tests. The following brief list is presented merely as an example of what is available: Brewer (1954), Rothschild (1959), Dishart (1959), Maxfield and Perry (1960), Suinn, Dauterman and Shapiro (1967), Clawson (1968), and Wilson (1971).

Rehabilitation has fostered psychological testing not only by publications, conferences, standard-setting, and providing financial support for the individual evaluations, but also by encouraging and supporting development of new tests, some of which will be discussed in the following section. There can be no doubt that, without the active support of rehabilitation at state and national levels, psychological evaluation of blind persons of all ages would still be a mere shadow of its present self.

---

[29] M. K. Bauman, *Manual of Norms for Tests Used in Counseling Blind Persons* (New York, 1958).

[30] M. K. Bauman, *Adjustment to Blindness: A Study as Reported by the Committee to Study Adjustment to Blindness* (Harrisburg, 1954).

[31] M. K. Bauman and N M. Yoder, *Adjustment to Blindness–Re-Viewed* (Springfield, 1966).

Non-Verbal and Performance Tests

Psychologists and educators alike recognize that ability takes both verbal and non-verbal forms and that to measure only one of these is to measure only half of the individual's potential. The Binet-Simon includes some non-verbal items, but in adapting it to the blind these were usually dropped. That Irwin tried to include non-verbal items is attested by Kohs[32] who says:

> It may be of interest to you, also, to know that I worked with Robert Irwin, back in 1913, when he was pioneering in the field of mental testing for the blind. I remember very distinctly his visit to the Vineland, New Jersey, School for the Feebleminded, his conversations with Dr. Goddard, and my being assigned to work with him at one of the schools for the blind on Long Island, New York, where we attempted to translate the Binet test into tactual dimensions. From that experience I began to think about using blocks as test material.

The 1930's and 1940's, dominated by the Interim Hayes-Binet, which was entirely verbal, and the Wechsler Verbal Scales, heard many complaints from psychologists who longed for an equivalent to the Wechsler Performance Scales that could be used with blind clients.

In the mid-40's Bauman began to use an adaptation of the Dearborn Formboard with structured teaching and repeated trials which made it a measure of learning. She reported on this Non-Language Learning Test in 1947[33] and continues to use it to the present although she terms it a clinical instrument, rather than a test; it is material through which the clinician may evaluate the ability of the client to profit by training and experience.

Occasionally others, such as Claassen and Wattron, suggested materials which might assist in the evaluation of non-verbal abilities, but no significant work was done on this problem until the Office of Vocational Rehabilitation funded several projects during the late 1950's.

The most ambitious of these projects was the Haptic Intelligence Scale for the Adult Blind, developed by Shurrager and her co-workers. Like the WAIS Performance Scale, the HIS consists of a variety of subtests, some pretty much a translation of WAIS Performance subtests into three-dimensional form. Norms were developed on blind persons chosen to parallel the sex, age and geographical distribution used for the WAIS norms. The design was excellent, the professional work solidly done, and it would seem that the test deserved immediate acceptance. This it has never received, in part because it is quite time-consuming to administer but, perhaps even more, because it provides norms only for persons without useful vision. As Hayes in his wisdom foresaw forty years earlier, a test which cannot be used with that large percentage of "blind" persons who have some vision is of limited use.

Between 1957 and 1960, the Office of Vocational Rehabilitation also funded a complex project under Tiffin in which two non-verbal tests were developed, the Tactual Reconstruction Pegboard (TRP) by Gruber and the Vocational Intelligence Scale for the Adult Blind (VISAB) by Jones. These tests were much simpler to administer and provided norms for the partially sighted as well as the totally blind. However, they too have seen little use.

---

[32] S. C. Kohs, "The Ohwaki-Kohs Block Design Intelligence Test," in *Proceedings of the West Coast Regional Conference on Research Related to Blind and Severely Visually Impaired Children* (New York, 1965).

[33] M. K Bauman, "Report on a Non-Language Learning Test," in *Proceedings of the American Association of Workers for the Blind* (1947), pp. 99-101.

Inspired by his early work with Irwin, Kohs had developed a block design test for the sighted which was widely used and became part of the WAIS Performance Scale, where it was found to correlate very highly with the total scale and might therefore be a good substitute for the total Performance Scale if necessary. So favorable a record naturally recommended the Kohs test as a possible substitute for the full Performance Scale with blind persons if it could be put into tactual form. An effort to do this was made by Ohwaki, who covered each color with a differently textured fabric and developed norms on Japanese subjects. Sakata and Sinick felt that the test had much promise for use in the United States although they also felt that the Japanese norms needed revision if they were to be applied here. Suinn and Dauterman, along with others who used the Ohwaki materials, decided that the blocks had to be covered with something more durable than the textiles used in Japan. They therefore made the blocks larger, covered them with rough and smooth plastic in black and white, and developed norms on both partially sighted and totally blind subjects.

Thus, within ten years, OVR-funded projects produced four separate performance tests or batteries. Today test materials are commercially available for none of these since all were originally made in very small quantities. Few studies have been made to show whether or not these performance materials could make a significant contribution to the evaluation of blind adults, although Bauman and Mullen did do one small study in 1965, Gallagher related HIS subtest scores to mobility skills in blind adolescents, and Streitfeld and Avery related HIS to academic achievement.

Other contributions to non-verbal testing which have seen even less use are Anderson's adaptations of the Raven Progressive Matrices, Newland's Blind Learning Aptitude Test, measures of form perception by Weiner, measures of form discrimination by Crandell *et. al.*, and the recent adaptation of an abstract reasoning test by Morse. Much of this work was also federally funded.

Today we can no longer say that no non-verbal tests are available, but most of those which have been developed are inadequately normed, poorly validated, and lack that body of interpretative data which could make them useful to the many psychologists who see only a few blind persons each year and are therefore in no position to develop norms for themselves. Many thousands of dollars and some thousands of professional and student hours later, we know little more about the performance ability of blind people than we did in the 1930's. And worst of all, the test materials themselves are not available for either practical application or experimental study.

Other Aptitude Tests

No attempt will be made to list every inkprint aptitude test which has been put into braille or which has been used with blind youth by reading the test aloud. Aptitude for sales, for supervision, etc., can be adapted in these ways pretty much on an individual basis as long as there are safeguards so that the blind person's score is not reduced because he is a poor braille reader or because he cannot accurately carry in mind three, four or five alternatives in the multiple choice items so often found on aptitude measures.

Such special aptitudes as that for music were given early attention in the works of Kappes and Merry. Bigman developed a clerical aptitude test which has seen modest use. Gardner's adaptation of the Foreign Language Aptitude Test had a brief popularity in the 1960's. Dexterity and mechanical aptitude tests have been developed by Curtis and Clawson.

Between 1960 and 1965, Nolan and Morris developed a quite unique measure of aptitude for braille reading or reading readiness. No one is sure at just what age children should be expected to have enough tactual discrimination to learn braille, but the ability to discriminate degrees of roughness in a series of sandpaper patches was shown to differentiate between learners and non-learners of braille reading in first grade. The test is composed of a series of sixty-nine cards upon each of which are mounted four pieces of sandpaper. Of these, three pieces are alike and one is different, being rougher or coarser than the others. The child is asked to find the piece of sandpaper that feels different from the others.

Evaluation of the ability of preschool blind children is particularly difficult because their environments are likely to vary greatly, from almost excessive stimulation in some homes to neglect and almost total lack of stimulation in other homes. No very young child is likely to perceive testing as a serious affair in which he should do his best, and it is especially difficult to obtain good cooperation and high motivation in a blind child from whom such structured behavior has rarely been expected by his parents. Consequently, when the Vineland Social Maturity Scale was devised by Doll, an effort was promptly made to adapt it for use with blind children. The Vineland Scale, at the earliest age levels, rarely depended upon vision for success, and it was administered by conferring with the parent and asking about the child's typical behavior, rather than by trying to have the child perform at the request of the test administrator. After exploratory studies by McKay and Bradway yielded guidelines by comparing the blind child with his sighted peers, Maxfield adapted the content of the scale to blind preschoolers and, with the assistance of Fjeld and Buchholz, determined at what ages typical behavior could be expected in a blind child. Although Maxfield has always said that her norms should have further study and refinement, this instrument is still our most satisfactory means of evaluating very young blind children.

Probably one of the most frequently used aptitude measures is the Scholastic Aptitude Test which has been adapted for use with blind students by braille-plus-recording with answers typed by the student. This is administered under the same highly controlled conditions required for the SAT's use with sighted students, is scored and reported from Princeton in the standard way. Each year it contributes greatly to the chances for admission to college of hundreds of blind teenagers.

Measures of Personality

Early psychological evaluations of blind persons rarely included any measure of personality. When such a measure was included, it was all or part of a personality measure designed for sighted individuals. Early interest often lay more in comparing the responses of blind and sighted subjects than in gaining a better understanding of the blind client himself. Brown's comparison of adolescents on "a neurotic inventory" in 1939 is an example of this.

In two companion articles in 1950 Hayes[34] reviewed a number of the well-known inventories for the seeing, evaluating the usefulness of each for blind subjects. He mentions the California Test of Personality (with the comment that Somers had used this in her famous study and had not found it very satisfactory), the Mental Health Analysis, Aspects of Personality, Mooney's Problem Check List, and the Bernreuter Personality Inventory, among others. Even with Dr. Hayes' detailed instructions for adapting such tests, all had disadvantages, all included some items which could mean something rather

[34] S. P. Hayes, "What Mental Tests Shall We Use? II. Devices for the Measurement of Personality," *Outlook for the Blind and The Teachers Forum*, 44, 3 (1950), 60-72.

different for a blind person. Both Cross and Potter adapted the administration and studied the application of the Minnesota Multiphasic Personality Inventory with blind adults and their adaptations are still frequently used.

During the late 1940's Bauman developed and refined a questionnaire, the Emotional Factors Inventory. This was used in the study of *Adjustment to Blindness* where it differentiated rather well between the successful and unsuccessful groups. Some ten years later Bauman added some items especially relevant to the adolescent, dropped other items, and thus adapted the EFI to teenagers, particularly those who are in school. Most of the items for both of these inventories came from discussions by blind adults or adolescents of their own problems or problems they observed in companions. Both inventories continue to see considerable use.

Less widely used are several inventories devised for specific purposes such as those of Jervis, Cowen and his associates, and Hardy. While these instruments show some value in the study for which they were devised, they have had little effect upon the general psychological testing of the blind.

Much of the greatest stir in the personality testing area is made by the many proponents of various projective techniques. From the Tautaphone, through the Harris Bas Relief Projective, the various auditory stimulus records, the adaptations of the incomplete sentences, and situational tests such as Sargent's, to the verbal presentation of TAT and Draw-a-Person, the authors of the tests seem to find some value in them – and few other people do. In most cases too little work has been done on the test to get it beyond the most elementary experimental stage. In some cases, the content is inappropriate for any large number of clients, and in almost every case the effectiveness of the test depends heavily upon how likely the client is to verbalize freely.

Measures of Interest

It is relatively easy to adapt an interest inventory for blind students by reading it to them. Hayes studied the inventories available in the 1940's and concluded that for children in the intermediate grades the Ohio Interest Inventory would be most appropriate; for students in high school, the Kuder Preference Record was best. The choices were based largely on how many items obviously required vision. In 1948 Hayes[35] published complete instructions for administration of the Kuder, with substitution of certain items developed by Quimby. Bauman's 1967 survey showed that the Kuder was still the most widely used of all the interest inventories. However, the California Occupational Interest Inventory (Lee-Thorpe) was also very widely used and the Strong Vocational Interest Blank was administered to slightly more than a thousand visually handicapped individuals during the report year.

In the publication stage is a new inventory whose content came from job descriptions of blind people and from their descriptions of hobby activities. This grew out of Bauman's data for the manuals on employment of blind people in the professions and in clerical, industrial and service occupations. It will have several advantages: the fact that all these activities can be done by visually handicapped people, the fact that the test can be administered by recording with a quite simple response method, and the fact that patterns of choice disclose a good bit about the individual's self-concepts as well as his interests.

---

[35] S. P. Hayes, "An Interest Inventory for the Educational and Vocational Guidance of the Blind," *Outlook for the Blind*, 42, 4, (1948), 95-104.

Obviously, interest has been the least active area in development of test materials especially for blind students or adults.

Thank you!

In preparing this paper the author has attempted to relate with great accuracy the early steps in development of testing for blind children and adults, then rather briefly delineate the lines of growth to the present. She admits that others might have placed emphasis on events other than those which her experience makes most significant for her. She apologizes to the many contributors to this field whose names do not appear in the bibliography, at the same time apologizing for the length of that list. At times she has deliberately listed the little-known references, feeling that the student can easily find those which appear in every bibliography. At times she has touched lightly upon an area because others have already written extensively on the subject; this is her reason for touching so briefly on projective tests, for example.

However, there are some people who have contributed much to the history of testing the blind but whose contributions take a form not easily recognized in a list of references. To them we would like to give a special "thank you" here:

O. H. Burritt and Edward E. Allen, the superintendents of the Overbrook and Perkins Schools, who first gave tangible support to that new science of psychology in relation to blindness by placing psychologists on their regular payroll and who thus started the two oldest departments of psychological and guidance service in schools for the blind.

O. E. Day who, as placement officer of the Overbrook School and later as head of the Pennsylvania state agency serving the blind, contributed in many ways to the joint ventures of psychology and rehabilitation.

L. L. Watts, who in 1954 rose in public meeting to move that there be a permanent committee for psychological research. This was especially important because Mr. Watts' contemporaries regarded him as deeply conservative – if he approved psychology, it must have something to offer!

Berthold Lowenfeld who, during his years with the American Foundation for the Blind, was a wide-ranging ambassador for professional growth in work with the blind. The author can attest that he encouraged her in her efforts and she is sure he encouraged many others.

Mary Switzer, Louis Rives and Douglas MacFarland who, in their capacities as administrators within the Department of Health, Education and Welfare, and in the profound understanding they brought to hundreds of personal-professional contacts in the field, provided a milieu in which psychology could contribute to solving the problems of blindness.

Above all, a great debt of gratitude is owed to the literally thousands of nameless blind individuals who have contributed their time, their energy, and their most private selves to psychological research.

This is not the end of the history of psychology and blindness – it is only the beginning!

BIBLIOGRAPHY

American Association of Instructors of the Blind, *Minutes, The Fifteenth Biennial Convention*, 1898, pp. 53-54.

Axelrod, S. *Effects of Early Blindness.* Research Series No. 7. New York: American Foundation for the Blind, 1959.

Bauman, M. K. *A Report and a Reprint: Tests Used in the Psychological Evaluation of Blind and Visually Handicapped Persons and A Manual of Norms for Tests Used in Counseling Blind Persons.* Washington, D C.: American Association of Workers for the Blind, 1968.

Bauman, M. K. *Adjustment to Blindness: A Study as Reported by the Committee to Study Adjustment to Blindness*. Harrisburg, Pa.: State Council for the Blind, 1954.

Bauman, M. K. *Manual of Norms for Tests Used in Counseling Blind Persons*. New York: American Foundation for the Blind, 1958.

Bauman, M. K. "Report on a Non-Language Learning Test." In *Proceedings of the American Association of Workers for the Blind*, 1947, pp. 99-101.

Bauman, M. K. "Selection Techniques for the Industrial Placement of the Blind." In American Association of Workers for the Blind, *Proceedings of the Twentieth Biennial Convention*, 1943.

Bauman, M. K. "Studies in the Application of Motor Skills Techniques to the Vocational Adjustment of the Blind." *Journal of Applied Psychology*, 30, 2 (1946).

Bauman, M. K., and S. P. Hayes. *A Manual for the Psychological Examination of the Adult Blind.* New York: Psychological Corporation, 1951.

Bauman, M. K., and S. C. Mullen. "Performance Tests of Intelligence for the Adult Blind: A Comparison of Three Measures." In *Blindness 1965.* Washington, D.C.: American Association of Workers for the Blind, 1965, pp. 75-85.

Bauman, M. K., and N. M. Yoder. *Adjustment to Blindness – Re-Viewed.* Springfield: Charles C. Thomas, 1966.

Bigman, G. T. A. "A Clerical Test for the Visually Handicapped." *Outlook for the Blind*, 44 (1950), pp. 80-83.

Birchard, F. W. "Vocational Guidance in Schools for the Blind." In American Association of Instructors of the Blind, *Proceedings of the Twenty-Seventh Biennial Convention*, 1924, pp. 158-162.

Blackburn, A. R., C. R. Athearn, and M. Shoesmith. *Report on the Vocational Training and Guidance Program of the New York Institute for the Education of the Blind.* New York: The New York Institute for the Education of the Blind, 1943.

Brewer, P. W. "A Follow-up Study Evaluating the Effectiveness of Psychological Examinations Administered to Adult Blind at the Start of their Vocational Rehabilitation." *The American Psychologist*, 9, 8 (1954), p. 339.

Brown, P. A. "Responses of Blind and Seeing Adolescents to an Introversion-Extroversion Questionnaire." *Journal of Psychology*, 6 (1938), pp. 137-147.

Brown, P. A. "Responses of Blind and Seeing Adolescents to a Neurotic Inventory." *Journal of Psychology*, 7 (1939), pp. 211-221.

Claassen, R. "Tests for the Blind." *International Journal for the Education of the Blind*, 4 (1954), pp. 12-15.

Clawson, L. E. "A Study of the Clawson Worksample Tests for Measuring the Manual Dexterity of the Blind." *The New Outlook for the Blind*, 62, 6 (1968), pp. 182-187.

Cowen, E., R. Underberg, R. Verrillo, and F. Benham. *Adjustment to Visual Disability in Adolescence.* New York: American Foundation for the Blind, 1961.

Crandel, J. M., D. D. Hammill, C. Witkowski, and F. Barkovich. "Measuring Form-Discrimination in Blind Individuals." *International Journal for the Education of the Blind*, 18, 3 (1968), pp. 65-68.

Cross, O. H. "Braille Education of the Minnesota Multiphasic Personality Inventory for Use with the Blind." *Journal of Applied Psychology*, 31 (1947), pp. 189-198.

Curtis, J. W. "Administration of the Purdue Pegboard Test to Blind Individuals." *Educational & Psychological Measurement*, 10 (1950), pp. 329-331.

Dabelstein, D. H. "Vocational Rehabilitation of the Blind." In *Blindness*, P. A. Zahl, editor. New York: Hafner, 1962.

Davidson, M., and A. W. Brown. "The Development and Standardization of the I. J. R. Test for the Visually Handicapped." *Journal of Applied Psychology*, 23 (1939), pp. 229-239.

Davis, C. J. "Application of Guidance Principles in a School for the Blind." In *Guidance Programs for Blind Children*, Perkins Publication No. 20. Watertown: Perkins School for the Blind, 1959, pp. 53-61.

Davis, C. J. "Guidance and Vocational Counseling." In *The Oslo Meetings: Proceedings of the International Conference of Educators of Blind Youth*, 1957, pp. 91-108.

Davis, C. J. "New Developments in the Intelligence Testing of Blind Children." In *Proceedings of the Conference on New Approaches to the Evaluation of Blind Persons*. New York: American Foundation for the Blind, 1970, pp. 83-92.

Davis, C. J., and C. Y. Nolan. "A Comparison of the Oral and Written Methods of Administering Achievement Tests." *International Journal for the Education of the Blind*, 10, 3 (1961), pp. 80-82.

DiMichael, S. G. "Psychological Tests for Use with Blind Adults in Vocational Rehabilitation." *Rehabilitation Service Series, No. 29*. Washington, D.C.: Federal Security Agency, Office of Vocational Rehabilitation.

Dishart, M. "Testing the Blind for Rehabilitation." *The New Outlook for the Blind*, 53 (1959), pp. 1-14.

Donahue, W., and D. Dabelstein, editors. *Psychological Diagnosis and Counseling of the Adult Blind*. New York: American Foundation for the Blind, 1950.

Drummond, W. B. "A Binet Scale for the Blind." *Edinburgh Medical Journal*, 24 (1920), pp. 16-31, 91-99.

Drummond, W. B. "A Provisional Point Scale for the Blind." *Edinburgh Medical Journal*, 24 (1920), pp. 232-247, 307-323.

First Regional Conference on Mental Measurements of the Blind. Watertown: Perkins Institution and Massachusetts School for the Blind, 1952.

Fortner, E. N. "A Group Intelligence Test in Braille." *Teachers Forum*, IX (1939), pp. 53-56.

French, R. S. "The Psychology of the Blind." In American Association of Instructors of the Blind, *Proceedings of the Twentieth Biennial Convention*, 1910, pp. 84-87.

Gallagher, P. "A Correlation Study of Haptic Subtest Scores and Travel Rating Skills of Blind Adolescents." *The New Outlook for the Blind*, 62, 8 (1968), pp. 240-246.

Gardner, R. C. "A Language Aptitude Test for Blind Students." *Journal of Applied Psychology*, 49 (1965), pp. 135-141.

Haines, T. H *A Mental Survey of the Ohio State School for the Blind*. The Ohio Board of Administration, Publication No. 9, 1916.

Haines, T. H. "Mental Measurements of the Blind: A Provisional Point Scale and Data for a Year Scale." *Psychological Monographs*, 21, Whole No. 89 (1916).

Hardy, R. E. "A Study of Manifest Anxiety among Blind Residential School Students." *The New Outlook for the Blind*, 62, 6 (1968), pp. 173-181.

Hayes, S. P. "An Historical Review of Achievement Tests for the Blind." *Outlook for the Blind*, 42, 10 (1948), pp. 300-304.

Hayes, S. P. "An Interest Inventory for the Education and Vocational Guidance of the Blind." *Outlook for the Blind*, 42, 4 (1948), pp. 95-104.

Hayes, S. P. *Condensed Guide for the Stanford Revision of the Binet-Simon Tests: Adapted for Use with the Blind*. Watertown: Perkins Institution and Massachusetts School for the Blind, 1930.

Hayes, S. P. *Contributions to a Psychology of Blindness*. New York: American Foundation for the Blind, 1941.

Hayes, S. P. *Manual for Self-Surveys in Schools for the Blind*. Philadelphia: Pennsylvania Institute for the Instruction of the Blind, Research Publication #2, 1921.

Hayes, S. P. "Measuring the Intelligence of the Blind." In *Blindness*, P. A. Zahl, editor. New York: Hafner, 1962.

Hayes, S. P. "Mental and Educational Survey in Seven Schools for the Blind." In American Association of Instructors of the Blind, *Proceedings of the Twenty-Fifth Biennial Convention*, 1920, pp. 10-17.

Hayes, S. P. *Ten Years of Psychological Research in Schools for the Blind*. Philadelphia: The Pennsylvania Institution for the Instruction of the Blind, 1927.

Hayes, S. P. "The Needs of the Blind Child in the Field of Educational Psychology." In *The Education of Blind Youth: Proceedings of the International Conference of Educators of Blind Youth*, 1952.

Hayes, S. P. "Twenty Years of Research: Aims and Achievements." In American Association of Instructors of the Blind, *Proceedings of the Thirty-Third Biennial Convention*, 1936, pp. 75-84.

Hayes, S. P. "What Mental Tests Shall We Use? II. Devices for the Measurement of Personality." *Outlook for the Blind and The Teachers Forum*, 44, 3 (1950), pp. 66-72.

Holland, B. F. "A Study of the Reactions of Physically Normal, Blind and Deaf Children to Questions in a Verbal Intelligence Test." *Teachers Forum*, IX (1936), pp. 2-10.

Jervis, F. M. "A Comparison of Self-Concepts of Blind and Sighted Children." In *Guidance Programs for Blind Children*. Watertown: Perkins School Publication No. 20, 1960.

Kappes, M. "Measures of Musical Talent." *Teachers Forum*, IV (1931), pp. 2-7.

Kohs, S. C. "The Ohwaki-Kohs Block Design Intelligence Test." In *Proceedings of the West Coast Regional Conference on Research Related to Blind and Severely Visually Impaired Children*. New York: American Foundation for the Blind, 1965.

Lowenfeld, B. *Our Blind Children: Growing and Learning With Them*. Springfield: Charles C. Thomas, 1956.

Lowenfeld, B. "Psychological Problems of Children with Visual Disabilities." In *Psychology of Exceptional Children and Youth*, W. M. Cruickshank, editor. Englewood Cliffs, N.J.: Prentice-Hall, 1955.

MacFarland, D. C. "An Exploratory Study Comparing the Maze Learning Ability of Blind and Sighted Subjects." *The New Outlook for the Blind*, 46 (1952), pp. 259-263.

MacFarland, D. C. *A Study of Work Efficiency of Blind and Sighted Workers in Industry*. New York: American Foundation for the Blind, 1956.

Maxfield, K. E. *Adaptation of Educational Tests for Use with Blind Pupils*. New York: American Foundation for the Blind, 1927.

Maxfield, K. E., and S. Buchholz. *A Social Maturity Scale for Blind Preschool Children: A Guide to its Use*. New York: American Foundation for the Blind, 1957.

Maxfield, K., and J. Perry. "Performance of Blind Vocational Rehabilitation Clients on the Purdue Pegboard." *Perceptual and Motor Skills*, Southern University Press, 1960.

Merry, R. V. "Adapting the Seashore Musical Talent Tests for Use with Blind Pupils." *Teachers Forum*, III, 4 (1931), pp. 15-19.

Meyer, G. F. "The Responsibility of the School for Vocational Guidance and Placement." In American Association of Instructors of the Blind, *Proceedings of the Thirtieth Biennial Convention*, 1930, pp. 505-511.

Morse, J. L. "The Adaption of a Non-Verbal Reasoning Test for Use with the Blind." *Education of the Visually Handicapped*, 2 (1970), pp. 79-80.

Newland, T. E *The Blind Learning Aptitude Test*. Washington, D.C.: U.S. Department of Health, Education and Welfare, 1969.

Nolan, C. Y. "Evaluating the Scholastic Achievement of Visually Handicapped Children." *Exceptional Children*, 28 (1962), pp. 493-496.

Nolan, C. Y., and J. E. Morris. "Development and Validation of the Roughness Discrimination Test." *International Journal for the Education of the Blind*, 15, 1 (1965), pp. 1-6.

Pearson, M. S. "Establishment of School and College Ability Test Norms for Blind Children in Grades 4, 5, and 6." Doctoral dissertation, University of Oklahoma, 1962.

Pintner, R., J. Eisenson, and M. Stanton. *The Psychology of the Physically Handicapped.* New York: F. S. Crofts and Co., 1941.

Potter, S. S. "A Method for Using the Minnesota Multiphasic Personality Inventory with the Blind." In *Psychological Diagnosis and Counseling of the Adult Blind*, W. Donahue and D. H. Dabelstein, editors. New York: American Foundation for the Blind, 1950.

"Report of the Committee on Vocational Guidance." In American Association of Workers for the Blind, *Proceedings of the 17th Biennial Convention*, 1937, pp. 301-312.

Rothschild, J. "A Battery of Psychological Tests in Rehabilitation Services." *The New Outlook for the Blind*, 53 (1959), pp. 249-251.

Rubin, E. J. *Abstract Functioning in the Blind.* AFB Research Series No. 11. New York: American Foundation for the Blind, 1964.

Sakata, R., and D. Sinick. "Toward a Performance Scale for Blind Persons." *Vocational Guidance Quarterly*, 13 (1964), pp. 55-57.

Sargent, R. F. "The Otis Classification Test – Form A, Part II, Adapted for Use with Classes of Blind Children." *Teachers Forum*, IV (1931), pp. 30-33.

Scholl, G. T., M. K. Bauman, and M. S. Crissey. *A Study of the Vocational Success of Groups of the Visually Handicapped.* Ann Arbor: The University of Michigan, 1969.

Shortley, M. J. "Psychological Tests for the Adult Blind in Vocational Rehabilitation." In American Association of Instructors of the Blind, *Proceedings of the 39th Stated Meeting*, 1948, pp. 214-220.

Shurrager, H. C. *Standardization of a Performance Scale to Improve the Assessment of the Aptitudes and Capacities of Blind Adults*. Chicago: Illinois Institute of Technology Center, 1959.

Streitfield, J. W., and C. D. Avery. "The WAIS and HIS Tests as Predictors of Academic Achievement in a Residential School for the Blind." *International Journal for the Education of the Blind*, 18, 3 (1968), pp. 73-76.

Suinn, R. M., and W. L. Dauterman. *Manual for the Stanford-Kohs Block Design Test for the Blind*. Washington: Vocational Rehabilitation Administration, U.S. Department of Health, Education and Welfare, 1966.

Suinn, R., W. Dauterman, and B. Shapiro. "The WAIS as a Predictor of Educational and Occupational Achievement in the Adult Blind." *The New Outlook for the Blind*, 61, 2 (1967), pp. 41-43.

Swann, R. W. "Facial Perception." In American Association of Instructors of the Blind, *Proceedings of the Tenth Biennial Meeting*, 1888, pp. 31-36.

Thomas, M. O. "Monroe's Standardization Silent Reading; Tentative Adaptation for Use with the Blind." *Teachers Forum*, II, 5 (1930), pp. 6-8.

Tiffin, J. *An Investigation of Vocational Success with the Blind*. Final Report of project subsidized by Office of Vocational Rehabilitation, Department of Health, Education and Welfare, 1960.

Tillman, M. H., and C. Williams. "Associate Characteristics of Blind and Sighted Children to Select Form Classes." *International Journal for the Education of the Blind*, 28, 2 (1968), pp. 33-40.

Vocational Aptitude Tests for the Blind. Watertown: Perkins Institution and Massachusetts School for the Blind, 1946.

Wattron, J. B. "A Suggested Performance Test of Intelligence." *The New Outlook for the Blind*, 50 (1956), pp. 115-121.

Weiner, L. H. "The Performance of Good and Poor Braille Readers on Certain Tests Involving Tactual Perception." *International Journal for the Education of the Blind*, 12, 3 (1963), pp. 72-77.

Whalen, S. "The Vicariate of the Senses." In American Association of Instructors of the Blind, *Proceedings of the Twelfth Biennial Meeting*, 1892, pp. 44-53.

Williams, M. "The Changing Concept of Intelligence and Intelligence Testing and the Development of the Williams Intelligence Test for Visually Handicapped Children." In *Proceedings of the Fourth Quinquennial Conference of Educators of Blind Youth*, 1968.

Wilson, E. L. "The Use of Psychological Tests in Diagnosing the Vocational Potential of Visually Handicapped Persons Who Enter Supportive and Unskilled Occupations." *The New Outlook for the Blind*, 65, 3, (1971), pp. 79-88.

Worchel, P , and K. Dallenbach. "Facial Vision: Perception of Obstacles by the Deaf Blind." *American Journal of Psychology*, LX, 4 (1947), pp. 502-553.

Worchel, P., and J. Mauney. "The Effect of Practice on the Perception of Obstacles by the Blind." *Journal of Experimental Psychology*, 41 (1951), pp. 170-176.

Worchel, P., J. Mauney, and J. G. Andrew. "The Perception of Obstacles by the Blind." *Journal of Experimental Psychology*, 40 (1950), pp. 746-751.

A HISTORY OF THE TYPEWRITER IN THE EDUCATION AND EMPLOYMENT OF VISUALLY HANDICAPPED PERSONS

By Donald J. Wonderling, Ed. D.

The purpose of this article will be to determine: (1) What role did blindness play in the development of the typewriter? (2) When was systematic typewriting instruction introduced into the education of blind children? (3) Historically, what have been the objectives for teaching typewriting to blind children? (4) To what extent, over the years, has the typewriter been utilized vocationally by blind persons? Suggestions will also be made concerning (1) problems needing research and (2) new developments in typewriting machinery that should be investigated for possible use by persons who are visually handicapped.

Development of First Practical Typewriter

The development of typewriting as we know it today dates back at least as far as 1714 when on January 17 of that year, Queen Anne of England granted a patent to Henry Mill, a prominent engineer, for a device that would prevent the falsifying of public documents. Mill's patent described this device as:

> . . . (an) artificial machine or method for the impressing or transcribing of letters singly or progressively one after another, as in writing, whereby all writings whatsoever may be engrossed in paper or parchment so neat and exact as not to be distinguished from print; that the said machine or method may be of great use in settlements and publick recors, the impression being deeper and more lasting than any other writing, and not to be erased or counterfeited without manifest discovery.[1]

Some persons have claimed Mill never developed an actual machine; he merely patented an idea.[2] Others say Mill's machine was not a true typewriter but an embossing device to help the blind.[3] Whatever the truth, nothing more is known about either Mill or his machine. It wasn't until more than fifty years later that history records other attempts to invent writing machines.[4] In 1917 two Viennese by the names of Von Knaus and Count Reipperg each invented writing machines, and in 1780 another was invented by Louis Jacquet, a Swiss. As in the case of Henry Mill, however, not much is known about these machines or their inventors.

At least as early as 1784, evidence exists that the needs of the blind figured in the invention of writing machines. A Frenchman named Pingeron,[5] in that year, invented a

---

[1] Herkimer County Historical Society, *The Story of the Typewriter, 1873-1923* (New York, 1923), p. 17.
[2] Bruce Bliven, *The Wonderful Writing Machine* (New York, 1954), p. 25.
[3] *Ibid.*
[4] *Ibid.*
[5] *Ibid.*

machine designed to emboss letters for the blind to read with their fingertips. Two decades later, an Italian, Pellegrino Turri Di Castelnuovo,[6] invented a similar gadget to be used by a specific blind lady, the Countess Carolina Fantoni da Fivizzono.

The first American patent for a writing machine was granted to William Austin Burt, a businessman of Mount Vernon, Michigan, in 1829.[7] Burt's machine was invented because of the fact that he had a large amount of paper work to do, so he invented a writing machine to help him get it done faster. Burt's machine had just one problem – it was slower than writing with a pen.

Soon after this many other similar machines were invented. The first Russian machine was developed in 1840 by Jaan Jackson.[8] Then, in 1843, the early steps toward production of a workable, practical machine were taken. In Worcester, Massachusetts, Charles Thurber attempted ". . . to produce an instrument which would take the place of a pen and pencil for those who, because of blindness or other infirmities found it especially hard to write."[9] A special feature of Thurber's machine was cupped keys with raised letters on them for use by blind persons. But more important for progress toward the production of a practical typewriter was a special feature that has survived to be included on modern typewriters. This feature consisted of a cylinder that held the paper and moved longitudinally to space the letters and rotated to change the lines. The trouble with Thurber's machine was that neither the blind nor others found it to be useful. Not to be discouraged, Thurber invented another device ". . . specifically intended for the sightless and designed to produce something like actual handwriting. . . ."[10] This machine was unsuccessful because it just did not work.

Following Thurber was an inventor by the name of Hughes who invented a machine in 1850 called the Hughes Typograph.[11] Hughes, Governor of Henshaw's Blind Asylum, Manchester, England, claimed his to be the first typewriting machine. This machine was designed primarily to enable the blind to communicate with the seeing. Dolanski[12] noted that the machine operated on the revolving disc principle that has been used in children's toy typewriters. Stainsby noted that Hughes' machine was exhibited in the Great Exhibition in 1851 with ". . . a number of other contrivances for similar purposes. . . ."[13] Stainsby wrote in 1898, "I have often wondered whether the modern typewriter had its origin in those machines invented for the same purpose for blind people, and have recently had my conjectures confirmed from two independent and reliable sources."[14] He did not reveal the sources of his information, however.

Another machine,[15] claimed also to be the forerunner of the modern typewriter, was an embossing machine invented in 1849 by a Frenchman by the name of Pierre Foucault, himself blind and a teacher in the Paris Institute for the Blind. Foucault's machine won a gold medal in the 1851 Crystal Palace Exposition in London and was used successfully for years in various European institutions for the blind. This machine, called

---

[6] *Ibid.*

[7] Richard N. Current, *The Typewriter and the Men Who Made It* (Urbana, 1954), p. 23.

[8] Bliven, p. 25.

[9] Current, p. 24.

[10] *Ibid.*

[11] Henry J. Wagg, *Chronological Survey of Work for the Blind* (London, 1932), p. 26.

[12] Vladimir Dolanski, "Technical Aids and Appliances in the Education of the Blind," in *Proceedings of the World Conference on Work for the Blind*, ed. Helga Lende, Evelyn C. McKay and Sherman C. Swift (New York, 1932), p. 26.

[13] Henry Stainsby, "Typewriting for the Blind," *The Blind*, 1 (April 1898), 18.

[14] *Ibid.*

[15] Herkimer County Historical Society, p. 23.

a Raphigraph,[16] had keys like a piano that were pressed with the right hand while the left hand shifted a spacing mechanism to obtain the desired letters. One could write fifty letters a minute on this raised-letter machine.

In 1856 a patent was given to A. Ely Beach, one of the editors of the New York *Scientific American*, for a machine he called an "Improvement in Printing Instruments for the Blind." This machine was a forerunner of later typewriters in two respects: ". . . the type bars (two for each character) were set in a circle and converged at a central point, and the keyboard consisted of rods topped by buttons and arranged in ascending rows."[17]

Other writing machines were invented at a brisk pace about this time, but it was Christopher L. Sholes,[18] a Collector of Customs, a legislator, a postmaster and a hobbyist from Milwaukee, who is credited with inventing the first practical, workable typewriter. In 1868, after having read about these various writing machines and seeing the similarity between them and a page-numbering machine he was in the process of developing, Sholes succeeded in building a machine that printed words. The arrangement of the keyboard on this early typewriter was alphabetical, but in 1872 Sholes redesigned his machine and the new keyboard arrangement remains today with only a few minor changes. It isn't known just how much Sholes was influenced, as other inventors were, by the need of blind persons for a writing device. It seems reasonable to assume he was aware of the inventions of people like Beach and his "Improved Printing Instrument for the Blind." In 1878 William H. Churchman, President of the American Association of Instructors of the Blind and blind himself, commented at the 1878 convention of that organization that he offered some pertinent ideas to typewriter manufacturers in Milwaukee, the city in which Sholes lived when he produced his invention. Churchman claimed he suggested certain changes to these Milwaukee inventors that were intended to make the machine more adaptable for use by blind persons:

> A word, also, with regard to the type-writer as that seems to come within the scope of the subject under discussion. There is to be an exhibition here of type-writers, as I understand, and I should like to explain, and then leave. . . . permit me to say that I have watched its progress from its inception, i.e., for the last fifteen or sixteen years. The originator of it was a citizen of Milwaukee, and I took the trouble to go from Indianapolis to Milwaukee for the express purpose of seeing it. I made certain suggestions to the manufacturers and controllers of the instrument, which have been partly carried out. By way of explanation, let me say that the original instrument contained a single row of some forty keys – regular piano or melodeon key – every alternate one being a raised key. I suggested the throwing of the keys into four banks, or rows, and grouping them into ten sections, by vertical lines so arranged that each finger would have its proper work to do. I thought that in this way they could adapt it better to the use of sightless persons.[19]

Churchman confessed that the inventors did not incorporate all of his suggestions into their machine, and he commented on that:

> As the inventor adopted the suggestion in part only, I feared that blind persons would find the proper manipulation of the keys to be a matter of too difficult attainment, and some five or six months ago purchased a second-hand machine, with a view of having it modified as to remove this difficulty. But the expense of such a modification proved to be too great, and I adopted in lieu thereof this little device to be placed upon the key-board. By its aid I was enabled to write a letter at once, and from that time to this I have never dictated one to an amanuensis.

---

[16] Charles G. Ritter, "Devices to Aid the Blind," in *Blindness*, ed. Paul A. Zahl (Princeton, 1950), p. 396.

[17] Current, p. 25.

[18] Herkimer County Historical Society, p. 67.

[19] American Association of Instructors of the Blind, *Proceedings of the Fifth Biennial Convention* (1878), pp. 33-34.

> This statement is made for the purpose of showing that the type-writer can be made practically useful to the blind. When the machine is brought into the room, the guide will be placed upon it, and you can then see the manner of its use without further description.[20]

Churchman's suggestions to arrange the keys into four rows or banks in such a way that each finger controlled specific groups of keys is a feature that typewriter manufacturers eventually came to believe in, since that is a feature of modern typewriters. Also, the first sighted typists operated their machines by looking at the keys; Churchman's suggestions to condense the keys into a smaller control area were to facilitate operation of the machine by the blind typist. This feature benefited both sighted and blind typists, and, as Dolanski pointed out, ". . . a machine originally intended exclusively for the blind, has spread against all expectations and has become an excellent means of communication for the seeing."[21]

Development of Typewriting Instruction in Schools for Blind Children

Systematic instruction in typewriting for sighted typists began about 1880. The Herkimer County Historical Society claimed the Scott-Browne School in New York City was first to give such instruction in 1878.[22] Russon and Wanous[23] gave credit to the Central Branch of the YWCA in New York as being first; in 1881 that organization began teaching a class of eight young women to typewrite.

J. L. Smead, Superintendent of the Ohio Institution for the Blind at the time, reported to the American Association of Instructors of the Blind convention in 1876 that blind children were operating typewriters in that school at least as early as 1876, just eight years after the date of Sholes invention:

> We are using in our institution three type-writers. The simple principle is, – the types are operated by keys as on the piano. The operation is simple, but the construction is complicated. The practicability of its use for the blind is demonstrated by the use we have made of it. Our girls use it most. Previously, pencil-writing became so irksome to some pupils that they required seeing persons to write for them, now they can go to the typewriter and write for themselves.[24]

The method of machine operation taught to sighted operators was the "hunt and peck" method, utilizing vision. However, in 1881 systematic instruction in the "touch or all-finger method" was begun for sighted typists. Credit for initiating such instruction has been given to the Langley Shorthand and Typewriter Institute in Cincinnati.[25] However, the first "touch" typist was a blind person, and as has been pointed out, "The touch method was a discovery of the blind, and a gift by them to all the typists of the world."[26]

Educators were aware of the value of teaching typewriting in schools for blind children:

> A blind amanuensis would be practical thing with the type-writer. . . . A blind man, an editor, who commenced over a year ago to operate a machine, last year went to Washington

---

[20] *Ibid.*, p. 34.

[21] Dolanski, p. 230.

[22] Herkimer County Historical Society, p. 119.

[23] Allien R. Russon and S. J. Wanous, *Philosophy and Psychology of Teaching Typewriting* (Cincinnati, 1960), p. 10.

[24] American Association of Instructors of the Blind, *Proceedings of the Fourth Biennial Convention* (1876), p. 75.

[25] Herkimer County Historical Society, p. 111.

[26] *Ibid.*, pp. 109-110.

as correspondent of his paper, and wrote the letters on this machine. I understand he wrote faster than a seeing person in the ordinary way, or about sixty-five words a minute.[27]

Typewriter manufacturers may have had some influence on the introduction of typewriters in schools for blind children. They appear to have been in competition with each other. Special discounts were given to schools that purchased their machine. At the 1878 convention of AAIB, a letter from Fairbanks & Ewing, typewriting manufacturers of Philadelphia, was read that offered ". . . special discounts upon type-writers for the various Institutions for the Blind."[28] A company representative by the name of Travis described and illustrated what he called "a perfected machine." The tone of his sales presentation leads to the conjecture that typewriters in schools for blind children may have been common and that many members of the convention were, at this time, familiar with it:

> *Ladies and Gentlemen*: I thank you for this opportunity of presenting the merits of the type-writer. Most of you, no doubt are familiar with the type-writer, and know that up to the present year it has been somewhat imperfect. In our perfected machine, which I have here, we have designed to supply one which is durable and not liable to get out of order, and as noiseless as possible. We have the first two qualities as good as we desire, while the noise is so slight that it is not an objection. We have, also, a machine which writes with capital and lower-case letters. That style of machine is especially adapted to the use of those writing for the press. We also supply other styles. We have supplied many machines to the blind, which have received hearty approval. We believe we have a machine that will supply a long-felt want among the blind. We have presented our terms, and bring the subject before you this evening, hoping, by the liberal rate we offer them at, to furnish machines to many who could not otherwise purchase them. If there are any present who do not understand the working of the machine, or its uses, I will be pleased to explain it to them at any time. There are those here who have used the machines – the blind as well as seeing persons – who have expressed to us their hearty approval of them.[29]

Remington & Sons were also doing their part in the introduction of typewriters into the schools for blind children. At the 1876 AAIB convention, the superintendent of the Arkansas Institution for the Blind informed members: "The Manufacturers of the type-writer (Remington & Sons), informed me that they can make an instrument to write with the pin-type."[30] (The insertion of Remington & Sons in parenthesis was that of the Convention recorder.) The meaning and significance of "pin-type" is not known; however, it may indicate that AAIB was at that time investigating various types of machines, because at the convention in Columbus two years later the members passed the following resolution:

> *Resolved*, that having tested the Remington type-writer practically, we freely endorse it, and we believe it affords the best means for correspondence for use among the blind, and tender our thanks to those who have been most active in producing the perfected machine, and hope its use may become general.[31]

A motion was made that the above resolution be referred to the Chairman, William H. Churchman. Churchman believed in the values of the typewriter for blind persons, but he was not willing to allow the records of the meeting to contain a resolution that endorsed the typewriter as the panacea of written communications for the blind:

> While I am very favorable to the type-writer, and am free to say that if I could not replace the one I have, I would not take a thousand dollars for it, yet I do not wish this Convention to say it is the best means of correspondence for the blind. I think it is speaking

---

[27] American Association of Instructors of the Blind, *Proceedings of the Fourth Biennial Convention*, p. 75.
[28] American Association of Instructors of the Blind, *Proceedings of the Fifth Biennial Convention*, p. 39.
[29] *Ibid.*, p. 82.
[30] American Association of Instructors of the Blind, *Proceedings of the Fourth Biennial Convention*, p. 75.
[31] American Association of Instructors of the Blind, *Proceedings of the Fifth Biennial Convention*, p. 142.

rather too general. Now for the correspondence with the seeing, to those who have retained their hand and can write legibly, the pen is best on account of its simplicity. I would be in favor of a resoltuion recommending the use of the type-writer to blind persons who have extensive correspondence with seeing persons, for the reason that there cannot be any imperfectly formed letters. They may make mistakes, but they cannot put in letters so but that the meaning will be understood. I am willing to join the passage of a resolution complimentary to and recommending the type-writer to all blind persons who have use for an article of the kind.[32]

Whether that resolution or Churchman's endorsement of the typewriter was influential or not, systematic typewriting instruction in schools for blind children was established. According to the 1890 annual report of the Board of Directors of the Western Pennsylvania Institution for the Blind (now Western Pennsylvania School for Blind Children), a committee sent to the Columbus, Ohio, school to collect information useful in the formation of the Pennsylvania school reported that instruction in typewriting was given there to at least older students: "Saturday is correspondence day, when the little ones are assembled, and the teachers read their letters to them, and answer the same for them. The larger ones are instructed on the typewriter and answer their own letters."[33]

Typewriting instruction became part of a discussion concerning curriculum for blind children at the 1896 AAIB conference. A topic discussed at that meeting was: "What subjects should be included in the curriculum of studies?" E. P. Church, Superintendent of the Michigan School for the Blind in Lansing, answered this question by indicating that blind children should be instructed in the sense of touch, reading, writing, numbers, geography, mathematics, language and the operation of the typewriter:

> After having given a good strong course in language and in rhetoric, teach composition and have the pupils use the typewriter, and that not only in their compositions, but in preparing their examination papers. We desire them to become very ready in the use of the typewriter. I believe there is both education and support in that.[34]

There is evidence that shortly after the opening of the twentieth century several schools began systematic typewriting instruction. At the 1902 meeting of AAIB, W. G. Holmes, then manager of the Zeigler Magazine, unable to attend the convention, wrote a letter to W. B. Wait, a member of the Executive Committee of AAIB and asked him to ". . . bring up the matter of typewriters and get expression from the principals as to which is best adapted to the blind, and which has the most durability and requires less repairing."[35] By the nature of his request, Holmes assumed that the principals had experiences with typewriters in their schools.

In 1918 the superintendent of the Kentucky School for the Blind stated that typewriting had been taught for fifteen years at that school, indicating that formal instruction had begun there about 1903.[36]

That typewriting was taught formally at the Western Pennslyvania Institution for the Blind at least as early as 1910 is indicated by a brief statement in the 1920 issue of the report of the directors: "Miss Sophia Pincus, for 10 years office assistant and teacher of

---

[32] *Ibid.*

[33] Western Pennsylvania Institution for the Blind, *Third Annual Report of the Directors* (1890), p. 7.

[34] American Association of Instructors of the Blind, *Proceedings of the Fourteenth Biennial Convention* (1896), p. 60.

[35] American Association of Instructors of the Blind, *Proceedings of the Nineteenth Biennial Convention* (1908), p. 29.

[36] Susan B. Merwin, "Why Typewriting?" *Outlook for the Blind*, XII, No. 1 (1918), 49.

typewriting has become Mrs. Morris Handelman."[37] The superintendent of the Ohio State School for the Blind, discussing the subject "Educational Waste in Schools for the Blind: Its Causes and Indications; How Measured; Its Prevention" at the 1910 convention of AAIB, was quite direct about the value of teaching typewriting instead of handwriting in schools for blind children:

> Hand writing is not a supremely valuable accomplishment and for the blind it appears to me a wholly useless one. On the surface and I'm not sure but under the skin it presents the character of a show-off device, a wonder-breeder, for after school days the accomplishment is neglected. On the other hand, the use of the typewriter is to be commended as the most practicable way by which our pupils may be taught to communicate their thoughts in writing.[38]

Edith Kirk, writing in 1969, said, " . . . typewriting instruction was first established as part of the curriculum for Detroit's blind children in 1912."[39] The Western Pennsylvania Institution for the Blind, in the Report of the Directors in 1913, published a table giving a list of subjects taught with enrollments.[40] This table showed that of eighty boys and seventy girls in the school, eighteen boys and twenty-one girls received instruction in typewriting. Typewriting was a part of the Literary Department in that report, but in the following year, 1914, systematic typewriting instruction had become so established that it became a separate department in that school.

Objectives for Teaching Typewriting to Blind Children

Typewriting appeared to have been firmly established as a course of instruction in the schools for blind children by the 1920's. Very quickly, educators recognized the potential of the typewriter for both personal and vocational application. As early as 1896, Church urged personal application in the classroom: " . . . have the pupils use the typewriter, and that not only in preparing their compositions . . . We desire them to become very ready in the use of the typewriter."[41] The report of Sophia Pincus, typewriting instructor, to her superiors in 1914 revealed typewriting was taught for both personal and vocational use:

> The work consisted mainly of spelling, and letter writing. Instruction was also given in the more advanced classes in tabulating work, bills, receipts, and other business forms. Each pupil in this department is given the privilege of writing home letters on the typewriter. All the copy for *The Illuminator* is typewritten before it is stereotyped.
>
> Next year, I hope to make greater use of the Business Phonograph, and will endeavor to give all those whose proficiency merits, an opportunity of typewriting from phonographic dictation as this is a field in which the blind can successfully compete with the seeing.[42]

In 1918 Merwin, Superintendent of the Kentucky School for the Blind, in an attempt to answer the question "Why Typewriting in a School for the Blind?", expressed the opinion that typewriting instruction should include some kinds of mental training in addition to personal and vocational uses:

> . . . it affords an excellent method of teaching spelling, English and correct punctuation; because it develops quickness and accuracy of thought and action; because it is

---

[37] Western Pennsylvania Institution for the Blind, *Thirty-Third Annual Report of the Directors* (1920), p. 33.

[38] Edward M. Van Cleve, "Educational Waste in Schools for the Blind: Its Causes and Indications; How Measured; Its Prevention," in American Association of Instructors of the Blind, *Proceedings of the Twentieth Biennial Convention* (1910), p. 19.

[39] Edith C. Kirk, "A Typewriting Program for Visually Limited Children," *The New Outlook for the Blind*, LXII (February 1969), 56.

[40] Western Pennsylvania Institution for the Blind, *Twenty-Sixth Annual Report of the Directors* (1913), p. 27.

[41] American Association of Instructors of the Blind, *Proceedings of the Fourteenth Biennial Convention*, p. 60.

[42] Western Pennsylvania Institution for the Blind, *Twenty-Seventh Annual Report of the Directors* (1914), p. 33.

> invaluable in the pursuit of any career, whether business or professional; because it means that the blind may be less dependent and better equipped for the struggle of life and because it affords another opportunity for a livelihood.[43]

Olin H. Burritt, Principal of the Pennsylvania Institution for the Instruction of the Blind, told AAIB members that typewriting had been in that school for a great many years by 1932, and his report revealed that typewriting was yet providing broader preparation to blind youngsters than just personal application. Transcription typewriting had been initiated by this time:

> The introduction of the typewriter into schools for the blind is generally thought to be comparatively recent. But the typewriter has been a part of the school's equipment for over fifty years. . . . Within recent years systematic instruction in the elements of commercial education has been developed under an experienced teacher of commercial branches. . . . A few Overbrook graduates, in common with graduates of other schools, are regularly and remuneratively employed by commercial establishments in stenographic work or as dicta-typists.[44]

In 1940 Frampton[45] described Commercial Education at the New York Institute for the Blind. Included in this curriculum were Business Law, Business Letters, Typewriting, Dictaphone and Braille Shorthand, Practice Store and Newspaper Concessions. Frampton stressed personal use as an objective of learning to typewrite when he wrote: "Proficiency in the practical application of the operating techniques in all the ordinary problems of the pupils in connection with his personal life and the personal uses to which he will put his typewriting knowledge is of great importance."[46] But Frampton also intended that the typewriter be used by some students vocationally, as indicated by the presence of a Dictaphone and Braille Shorthand Department.[47]

There were some educators in the early 1940's who came to the conclusion that education for vocational-use typewriting was not practical for blind persons, however. In the same year that Frampton published his book containing the above statements, A. L. Brown, Superintendent of the Colorado School for Blind Children, conducted a survey of commercial training in thirty-nine schools for the blind in the United States.[48] Brown's survey revealed that only five of the thirty-nine schools that returned questionnaires felt it was worthwhile to give a complete commercial course such as is usually taught in a regular business school. Twenty-three graduates of those five schools were at that time employed in some kind of office work. Twenty-one of the remaining thirty-four schools said they had a limited commercial course in their schools and fourteen answered that they had not even a limited course. Of various subjects taught, typewriting was the most popular; it was the one course taught by all of the thirty-nine schools. Other courses taught, in order of popularity, were commercial arithmetic, business English, simple record keeping, dictaphone or ediphone operation, braille shorthand, bookkeeping and stenotype. In listing the numbers of graduates or ex-students doing office work, six schools reported ten or more. The remaining schools showed that they had fewer than an average of two from each of these schools so employed. Brown pointed out that

---

[43] Merwin, p. 49.

[44] Olin H. Burritt, "Pennsylvania Institution for the Instruction of the Blind," in American Association of Instructors of the Blind, *Proceedings of the Thirty-First Biennial Convention* (1932), p. 622-628.

[45] Merle E. Frampton, *Education of the Blind*, (New York, 1940), p. 289.

[46] *Ibid.*

[47] *Ibid.*, pp. 295-301.

[48] A. L. Brown, "Aims of Commercial Training in Schools for the Blind – Vocational and Pre-Vocational," in American Association of Instructors of the Blind, *Proceedings of the Thirty-Fifth Biennial Convention* (1940), pp. 30-33.

undoubtedly most of these blind office workers " . . . had held their places over a long period of years and that the demand for the services of the blind in this field is growing less."[49] He reported that one outstanding educator of the time made the statement that " . . . more emphasis should be placed on industrial training than clerical."[50] Another wrote, "Business officers here will not accept blind or partially sighted typists or switchboard operators because they require employees to do so many things that require vision – filing, reading mail, etc."[51] The opinion of the school personnel responding to the questionnaire generally was that very little emphasis should be placed on commercial education. Brown then made a statement that seemed to be aimed at curtailing the instruction of commercial education and typewriting for vocational use in schools for blind children:

> Blind typists are very efficient within their limitations but we must admit there are certain things they cannot do. Our schools should recognize this fact and stop trying to offer a high-powered commercial course comparable to that given in the public school.[52]

Brown concluded that personal-use instruction should be the extent of commercial instruction for blind children except in circumstances where a pupil has promise of employment or where the location of the school lends itself to employment of graduates in office occupations. He concluded that: "All students should be given sufficient training to familiarize themselves with the ordinary everyday transactions in the business world."[53]

Speaking at the same convention in 1940 and arriving at the same conclusion as Brown was Louise Anderson of the Iowa school. Anderson allowed that " . . . commercial education has two objectives – education for business-like living and education for business-like working."[54] However, she believed educators of blind children should be more concerned with the first objective. And, although she did point out the need for continually seeking jobs in which blind persons could be engaged in the business world, she laid stress on obtaining employment that did not require an emphasis on typewriting: "I believe that we can stress the field of salesmanship for our students. Perhaps not actual selling, but the growing field of advertising."[55] She suggested the purpose of commercial education as being something broader than vocational preparation: "The happiness and success of every individual is measured by his ability to get along with other people. I believe that the basic purpose of any commercial course is to develop that ability."[56]

It does not appear, in retrospect, that the suggestions of Brown and Anderson were particularly heeded by other educators of blind children. In 1947 the principal of the Western Pennsylvania School for Blind Children reported that the commercial department offerings there included dictaphone and typewriting along with other non-typewriting subjects.[57] The superintendent of the Mississippi School in 1951 described the commercial offerings as also still including both vocational and personal preparation:

> In our commercial classes, our aim is to teach the students how to type accurately, not only for their own pleasure and convenience, but so they will have a vocation which will enable them to earn a livelihood. Typing and dictaphone transcribing are taught from the

---

[49] *Ibid.*, p. 32.
[50] *Ibid.*
[51] *Ibid.*
[52] *Ibid.*
[53] *Ibid.*, p. 33.
[54] Louise Anderson, "Aims of Commercial Training in Schools for the Blind – Vocational and Pre-Vocational," in American Association of Instructors of the Blind, *Proceedings of the Thirty-Fifth Biennial Convention* (1940), p. 34.
[55] *Ibid.*
[56] *Ibid.*, p. 35.
[57] Western Pennsylvania School for Blind Children, *Sixtieth Annual Report of the Directors* (1947), p. 27.

7th grade through the 12th grade or until such time as the maximum efficiency has been reached. This month a number of our former students are taking the Civil Service examinations for blind dictaphone transcribers.[58]

The commercial arts teachers of ten different schools for the blind throughout the eastern part of the United States attended the Commercial Arts Workshop of the 1952 AAIB convention, and they supported vocational education of commercial students in the following statement:

> Due to the many vocational opportunities offered in business to blind graduates presently and the many placements already made, much interest has been instilled in the blind student for an opportunity to take a course which will insure job placement. The demand for increased business courses in just these past few years has been great. There is a responsibility therefore for administrators and educators to provide an adequate and well-trained teaching staff as well as modern equipment to fulfill our obligation to our blind students.[59]

At the 1956 convention, the Commercial Arts Workshop of AAIB devoted half of its program to typewriting – personal *and* vocational. Thirty-three schools were surveyed before the conference to determine topics for discussion at this workshop. Four categories were derived from replies from respondents: personal typing, vocational typing, equipment and miscellaneous. It is interesting to note that the subject of vocational typing constituted about a fourth of the program. The workshop members suggested the following course of study under Vocational Typing:

A. Introduction to Business

B. Business Mathematics

C. Secretarial Practice

D. Salesmanship

E. Simple filing with necessary equipment.[60]

By the 1962 convention, it appeared that commercial departments in schools for blind children were still training students to use typewriters vocationally. Eight schools for blind children were represented at the Business Education Workshop of that convention. A list of twenty topics to be discussed at this workshop was sent to business education teachers in the field prior to the convention, and the subjects of greatest interest were selected as the basis of discussion at the workshop session. Recommendations of this group included the following:

4. Transcription machine courses should be offered to the students whose typing rate averages 35 to 40 wpm and whose English and spelling are average or better. Odell's minimum efficiency test for Dictaphone was recommended. An effort should be made to bring our students to a level where they can produce 3 or 4 letters in 30 minutes or 150 lines per hour. . . .

5. More time and effort should be placed on practical experiences that will better prepare our students for business positions. Having students type something that has meaning wherever possible, such as typing letters or cards which actually go through the mail, provides motivation. Helping with clerical jobs in the school office, operating

---

[58] John W. Eakes, "Mississippi School for the Blind," *The International Journal for the Education of the Blind*, I (June 1951), 19.

[59] American Association of Instructors of the Blind, *Proceedings of the Forty-First Biennial Convention* (1952), p. 76.

[60] American Association of Instructors of the Blind, *Proceedings of the Forty-Second Biennial Convention* (1954), p. 54.

> switchboard and mimeograph, preparing research papers and the like give valuable experience to students in business education courses.[61]

The text of this section helps clarify that from very early beginnings to present times, typewriting has been taught to blind students for both personal use and vocational application. The following section investigates the extent to which this machine has been utilized vocationally by blind persons.

Vocational Use of the Typewriter by Blind Persons

As early as 1875, just seven years after Sholes created what is considered to be the first practical typewriter, educators of blind children were considering typewriting as a means of employment for their pupils. Francis J. Campbell, Co-founder and Principal of the Royal Normal College and Academy of Music for the Blind in London, was one of these educators. His wife, Lady Campbell, writing in 1918 about the Royal Normal College and Academy, stated:

> When the Principal was in America in 1875, typewriters were just coming into general use in that country; he at once realized that the machine would be of great use in the higher education of the blind, and in the report for that year, expresses the belief that it will furnish remunerative employment for blind girls.[62]

In 1876 G. L. Smead had the same notion when he told AAIB convention members, "A blind amanuensis would be a practical thing with the type-writer."[63] Another educator, in 1888, said, "It is pleasant to note that one comparatively modern invention – the typewriter – has been a distinct service to the blind. Many of our pupils have acquired great skill in its use, and there is no reason why employment should not be found for some of them in writing from the dictation of stenographers."[64] Henry Stainsby, Secretary of the General Institution for the Blind in Birmingham, England, was convinced that " . . . the most practical feature of typewriting for the blind is that it should prove a means by which the more intelligent, educated, and refined may be enabled to earn their living."[65] So convinced that blind typists could be successful vocationally, Stainsby urged managers of institutions for the blind to establish typewriting offices employing blind typists.[66] He was then instrumental in successfully establishing such a typewriting office with blind typists in Birmingham in 1899.[67]

Although the beginnings were there, it was not for a few years that the vocational use of the typewriter for blind persons became a reality. Campbell noted, "It was not till a system of shorthand, and a machine for writing it was brought out, that typewriting for the blind became practical as a means of employment."[68] Campbell was undoubtedly referring to the braille shorthand system formulated under Henry Stainsby in 1899[69] and the braille shorthand machine, the Stainsby-Wayne Braille Writer, developed in 1911 by Alfred Wayne and Stainsby.[70]

---

[61] American Association of Instructors of the Blind, *Proceedings of the Forty-Sixth Biennial Convention* (1962), p. 101.

[62] Lady Campbell, "Royal Normal College and Academy of Music for the Blind," *Outlook for the Blind*, VII (Summer 1913), 39.

[63] American Association of Instructors of the Blind, *Proceedings of the Fourth Biennial Convention* (1876), p. 75.

[64] Burritt, p. 622-628.

[65] Henry Stainsby, "Typewriting for the Blind," p. 18.

[66] *Ibid.*, p. 21.

[67] Henry Stainsby, "A Typewriting Office with Blind Operators," *The Blind*, I (January 1900), 159.

[68] Campbell, p. 39.

[69] Wagg, p. 82.

[70] *Ibid.*, p. 89.

The reluctant acceptance of blind typists is reflected in the United States Bureau of Census Reports. In 1919 Harry Best published a table entitled "Occupations of the Blind and of the General Population."[71] The data in the table was taken from the Bureau of Census Reports of 1910. Clerical work, stenography and transcribing were not included as occupations in which either blind or sighted persons were employed. Best, however, emphasized these areas as potential employment for blind workers: "In stenography there may be considered to be a rather special field for the blind which may perhaps be enlarged, particularly as there is now special apparatus for their use."[72] In a second table published in 1934 by Best, Bureau of Census figures showed that in 1920 3.9 percent of the total employed blind were working in clerical occupations as compared with more than double that (7.9) for the general population.[73] It seems, therefore, that it was sometime after 1910 that blind persons were employed to much extent using typewriters occupationally. There were exceptions to this, however. For example, a report by the state of New York in 1906 indicated that both men and women who were blind were employed as typists:

> The following are some of the employments in which blind people are known to the commission to be remuneratively employed:
>
> For men and women, taking dictation on an embossed shorthand machine, and typewriting precisely as seeing operators do.[74]

Another example is Miss Edith Wood, a student of the Birmingham Blind Institution in England, who is claimed to be the first blind person to obtain work as a shorthand-typist. In 1901 she became an employee of the Remington Typewriter Company of Birmingham, England.[75]

One of the first blind persons to find employment as a typist in the United States was a pioneer by the name of Fannie D. Opdyke who in 1909 became a " . . . dictaphone operator in the office of the Condemnation Court of New York City, before she had ever seen a dictaphone."[76] Another pioneer, Lottie MacLeod Luce, lost her vision in 1909 but, after a few months' absence, returned to her job as a public stenographer in the St. James Hotel, Denver, Colorado, where she was yet working in 1924.[77]

It apparently became increasingly certain that blind persons could utilize a typewriter vocationally. This was reflected in the fact that training facilities for war-blinded veterans were teaching vocational typewriting. St. Dunstan's, established in London in 1915 for soldiers blinded in World War I, taught eight occupations among which were typewriting and stenography.[78] The Red Cross Institute for the Blind at Baltimore, Maryland, established for similar purposes, published a description of courses offered to blinded servicemen in 1919. Typewriting was offered for personal-use purposes: "It is the purpose of this Institution to train every man so that he can use the typewriter most efficiently and to be able to write intelligent business letters."[79] But it was also offered for vocational application: "This course comprises dictaphone

---

[71] Harry Best, *The Blind* (New York, 1919), p. 46.

[72] *Ibid.*, p. 537.

[73] Harry Best, *Blindness and the Blind* (New York, 1934), p. 220.

[74] *Report of the Commission of 1906 to Investigate the Condition of the Blind in the State of New York* (Albany, 1907), p. 75.

[75] Wagg, p. 84.

[76] "Blind Dictaphone Operators and Typists in the United States and Canada," *Outlook for the Blind*, XVIII (December 1924), 16.

[77] *Ibid.*, p. 20.

[78] Ishbel Ross, *Journey into Light* (New York, 1951), p. 288.

[79] *Courses of Instruction, Red Cross Institute for the Blind, Bulletin #1* (Baltimore, 1919), p. 1.

transcribing. . . . Students who will make dictaphone operation their vocation will be assigned to such work three or more hours daily."[80]

By 1924 there were eleven blind transcriber-typists in New York City, according to Margaret Foley.[81] Another source of such information indicates there were twelve.[82] This second source reveals there were eighy-eight dictaphone operators and typists in all of the United States in 1924 and seven in Canada.

With the close of World War I and the return of men and women from the war effort and the depression of the 1930's, employment of the blind undoubtedly decreased; it was no wonder that people such as Brown and Anderson (quoted earlier) might have concluded clerical work was non-feasible as a vocational objective for blind persons. But Brown seemed to question the ability of a blind person to work successfully as a typist. Contrary to his statement that the demands for the services of the blind in this type of work were growing less, job opportunities increased. World War II and the succeeding years permitted the blind to prove themselves able to succeed in this occupation. Dr. Douglas MacFarland compiled figures from a study of 6,580 rehabilitants of fifteen state vocational rehabilitation agencies in the United States. These figures revealed the numbers of blind persons employed from 1949 to 1953 in vocations requiring the use of a typewriter.

TABLE 2 — Group 1 — Clerical and Sales Occupations[83]

	1949	1950	1951	1952	1953
Number Persons Employed					
Vending stand operators, clerks and helpers	157	135	117	144	121
Salesmen	50	72	62	76	56
Dictaphone Operators	4	12	6	16	28
Clerks	9	12	32	37	21
Other*	39	21	39	37	31

*Includes a scattering of PBX Operators, Steno-Typists, Typists, Bookkeepers, Receptionists, and some who were only classified as "Other Various Occupations."

The numbers of blind persons employed in occupations that required skill in typewriting increased for the period 1949 to 1953, as noted by MacFarland:

> Office employment is increasingly covering such jobs as PBX operators, receptionists, secretaries, dictaphone operators, etc. Especially is this increase apparent in the dictaphone operator group . . . [84]

It appears from examination of the data that the increase in the dictaphone operator category was seven-fold, indicating a fairly significant change over the five-year period.

Wartenberg, Employment Director of the New York Association for the Blind, recognized an increase in the number of persons employed in office-type occupations using typewriting skill when he told the members of AAWB in 1956:

---

[80] *Ibid.*, p. 6

[81] Margaret Foley, "The Blind Dictaphone Operator," *Outlook for the Blind*, XXXIX (October 1945), 219.

[82] "Blind Dictaphone Operators and Typists in the United States and Canada," pp. 37-38.

[83] Douglas C. MacFarland, "Trends in Employment for the Blind," in American Association of Workers for the Blind, *Proceedings of the Twenty-Eighth Convention* (1954), p. 86.

[84] *Ibid.*, p. 84.

> Transcribing typing has received recognition and wide acceptance throughout the United States as a means of employing blind workers. As a result, commercial schools have been requested to accept blind trainees, and some specialized courses in transcribing typing have been set up by organizations for the blind.[85]

Wartenberg went on to elucidate: "In New York City alone we know of one hundred blind typists employed with insurance companies, publishers, business concerns, Civil Service, and until recently the New York Stock Exchange."[86]

In 1957, a year after Wartenberg's statement, Platt[87] analyzed the job placements of graduates of the New York Association for the Blind. He found 306 graduates to be employed in forty-eight different types of jobs. Twenty-one percent or sixty-four of these 306 graduates were employed as transcribing typists.

Two studies reported in 1963 and 1964 indicated that the numbers of blind persons employed in clerical and typist occupations continued at over ten percent of the total number of blind persons employed. Louis H. Rives, Jr.,[88] as Chief of the Division of Services for the Blind of the Vocational Rehabilitation Administration, reported to the World Council for the Welfare of the Blind in New York in 1963 that the placement category in which the largest percentage of blind persons were employed was the clerical and sales category. Of 3,169 persons rehabilitated in that year by VRA, Division of Services for the Blind, 556 or 17.5 percent were in the clerical-sales category. Rives pointed out, however, that the size of this figure was in part due to placements in the vending stand program. (This is a federally legislated program that permits blind persons, exclusively, to operate vending stands in federal buildings.)

Then, a year later, Dauwalder[89] conducted a survey of the graduates of the Western Pennsylvania School for Blind Children to determine the types of occupations in which these graduates were employed. Of 210 graduates who responded to questionnaires, 11.32 percent reported they were employed in clerical work. This classification "clerical work" included, according to Dauwalder, transcribing machine typists, receptionists, switchboard operators, medical secretaries, legal secretaries, medical typists, stock clerks, general office clerks and order clerks. Several of these positions required typewriting skill either full or part time on the job.

A year after Dauwalder completed his study, Bauman and Yoder[90] published the results of a study that included 752 blind rehabilitants from thirty-two states in the United States. Their figures revealed, consistent with previously reported figures, that ten percent (seventy-five) of these rehabilitants were engaged in occupations wherein their main duties required them to have typewriting skill. The variety of job titles and numbers of persons employed under each title were as follows:

---

[85] Stanley Wartenberg, "Vocational Training and Placement of Blind Persons – A Specialized Service," in American Association of Workers for the Blind, *Proceedings of the Thirtieth Convention* (1956), p. 42.

[86] *Ibid.*

[87] Philip S. Platt, "Ten Years of Cooperative Rehabilitation Activities – Operations and Results," in American Association of Workers for the Blind, *Proceedings of the Thirty-first Convention* (1957), p. 45.

[88] Louis H. Rives, Jr., "The Blind and Today's Jobs," *Rehabilitation Record*, VI (March-April 1965), 3.

[89] Donald D. Dauwalder, *Education, Training and Employment of the Blind* (Pittsburgh, 1964), p. 180.

[90] Mary K. Bauman and Norman M. Yoder, *Placing the Blind and Visually Handicapped in Clerical, Industrial and Service Fields* (Washington, D. C., 1965), p. 306.

Medical Transcriptionists	23
All other straight transcriptionists	30
Secretary	7
Legal clerk	1
Typist	2
General office work	12
	75

Predictions from two separate sources in 1964 should have served to encourage some blind persons to seek employment in clerical occupations and occupations employing typewriting skills. The Bureau of Labor Statistics[91] in 1964 reported projected percentage of change in the employment of workers in major occupational groups for the period 1960-1975. These statistics indicated there was to be a forty-five percent increase in the need for clerical workers during this period.

Then, also in 1964, Dauwalder[92] wrote that in the general business field, industry in the Pittsburgh area had indicated fifteen general job areas in which there were then the most opportunities for competitive placements. The first three job areas required typewriting skill: (1) stenographers, including stenographer-typists and stenographer-clerks; (2) dictaphone and specialized typists; and (3) general typists and copy clerks. Dauwalder pointed out that in the Pittsburgh area industry projected that thirty-two percent of all new employees would be hired with business education or distributive education backgrounds.

Data available from a recent survey has revealed that vocational placements of blind persons in clerical occupations have remained near the ten percent level. Dickey and Vieceli,[93] in 1972, reported the results of a survey to determine the numbers of placements of blind rehabilitants in each of eighteen occupational areas for the period 1968 to 1970 inclusively. Of 1,733 clients placed, 160 or 9.1 percent were employed in clerical occupations. The results of the study showed that the number of blind persons placed in clerical occupations was the third largest placement (160) preceded only by placements in industrial (600) and self-employment (191).

The figures presented in the Dickey-Vieceli study do not reveal how many blind persons placed in clerical jobs were using typewriting skills in these jobs, however. Yet the current article is concerned specifically with the application of typewriting skills by blind persons. In order to obtain up-to-date information concerning vocational application of typewriting skills and to determine if there has been an increase over the past ten years in blind persons employed in typewriting occupations, a month-by-month count was made of blind clients placed by the Pennsylvania Bureau of Visually Handicapped from January 1958 to December 1960 and from January 1968 to December 1970 in occupations requiring typewriting skills. This information was taken from the Monthly Service Report of that Bureau and included placements recorded with the following titles: dictaphone typist, dictaphone transcriber, medical transcriber, secretary, clerical occupation-stenographer, clerk-typist, clerk-typist I, clerk-typist II and general office worker. This data from a month-by-month count is recorded below in totals for each of the six years reviewed:

---

[91] *Occupational Outlook Handbook: 1963-1964*, United States Department of Labor, Bureau of Labor Statistics, Bulletin No. 1375 (Washington, D.C., 1964), p. 23.

[92] *Ibid.*, p. 180.

[93] Thomas W. Dickey and Louis Vieceli, "A Survey of the Vocational Placement of Visually Handicapped Persons and Their Degree of Vision," *The New Outlook for the Blind*, LVI (February 1972), 39.

Year	Total Number Placed in All Occupations	Total Placed in Typewriting Occupations	
		Numbers Placed	% of Total No. in All Occupations
1970	837	23	02.7%
1969	915	31	02.3%
1968	877	15	01.7%
.....	.....	....	.....
1960	247	9	03.6%
1959	253	0	00.0%
1958	250	9	03.6%

The data in the table above indicates that in Pennsylvania there has been a slight decrease in the percent of placements of blind persons in typewriting occupations during the three-year period 1968-1970, as compared with the three-year period 1958-1960. However, although representing a small percentage of the total rehabilitants placed in all occupations for the three-year period 1968-1970, the placements of blind persons into employment requiring typewriting skills has increased slightly but steadily over those three years.

Summary

It has been stated that the first typewriter of record was an embossing machine for use by blind persons. The truth of this is unknown. But there is evidence that, since 1784, writing machines were invented for the express purpose of providing a means of written communications for persons who were blind. The current article records evidence of seven separate writing devices that were invented exclusively for this purpose. Christopher Sholes, the inventor of what is considered to be the first practical typewriter, developed his machine only after having become aware of these more crude and unsuccessful machines for the blind. Several features of these cruder devices – such as the rotating cylinder which spaced the paper vertically and moved it space-by-space horizontally, the employment of type bars to carry the type face, the arrangement of the type bars to converge at a central printing point, the arrangement of the keyboard into four rows of keys and the grouping of the keys into ten vertical sections – were retained by Sholes on the first practical typewriter. In addition, the "all-finger" or "touch" method of machine operation originated with the blind typist since sighted persons originally typed using the "hunt and peck" method, a method not feasible without vision.

Systematic instruction for sighted typists began about 1880. Blind children were using typewriters in their schools as early as 1876, and it wasn't until 1881 that sighted typists began to receive instruction in non-visual, "touch typing."

It seems that typewriters were readily accepted as communication devices in schools for blind children. Several factors may have contributed to such early widespread acceptance: (1) educators were convinced of the personal *and* vocational application values of this machine for blind persons, (2) typewriter manufacturers encouraged schools to purchase typewriters by offering discounts and displaying and demonstrating them at meetings and conventions of educators, and (3) professional organizations of educators recommended and encouraged the use of typewriters for blind persons; sometimes they even gave their endorsement to certain machines.

Although blind children were using typewriters by 1876, evidence was not discovered by this writer that specifies precisely when systematic typewriting instruction

for blind children began. Sufficient evidence exists to judge that such instruction was occurring shortly after the opening of the twentieth century and that typewriting was a well-established part of the regular curriculum by 1920.

The objectives for teaching typewriting included both personal use and vocational application. Some persons in the 1930's questioned whether the latter objective was practical, since typists frequently were asked to perform duties in their daily routines that required vision. Instructions in typewriting and transcription continued, though, in several schools for blind children throughout the 1940's, 1950's and 1960's, and vocational objectives received continued support from business educators, as evidenced in reports of professional conventions and meetings of educators of the blind.

The utilization of the typewriter by blind persons vocationally began at least as early as 1901. Blind persons found employment as "shorthand typists," "public stenographers" and "dictaphone operators." It appears the acceptance of blind typists into the business world was not rapid. However, by the latter part of the second decade of the twentieth century, it seemed to have become increasingly apparent that blind persons could be successfully employed as typists, transcribers and stenographers.

Vocational rehabilitation specialists from the late 1940's until the present have been emphasizing the feasibility of employment for blind rehabilitants in clerical occupations and occupations requiring typewriting skills. Employment and placement in these occupations, as revealed in certain data, has varied. Although certain predictions for the period 1960-1975 indicated an expected forty-five percent increase in clerical employment for the general work population, and other predictions were for large increases in employment of typists and transcribing machine operators, a survey of a specific group of blind rehabilitants reveals recent placement in typewriting occupations has decreased from what it was ten years previously. However, slight increases in placement in typewriting occupations over the three-year period 1968-1970 are apparent.

Looking Forward

Educators and rehabilitation specialists are responsible for assisting blind persons to develop typewriting skills and for finding successful employment using these skills. Yet the extent of research into the factors that affect the learning of and vocational application of typewriting skills is almost negligible. An examination of the research has revealed just two studies concerned with typewriting and blind persons. One study[94] was concerned with factors that influenced typescript errors made by blind typewriting students. The other study investigated the job satisfaction of transcribing typists who were blind.[95] Systematic investigation of factors related to non-visual learning of typewriting skills should be conducted. Consideration should also be given to studying new ways of employing blind persons in typewriting occupations. Therefore, the future should see research designed to answer such questions as:

1. What factors are different and similar in learning to typewrite without vision as compared to learning to typewrite with vision?

2. What is the effect of various modes of copy input on speed and accuracy attainment of blind learners?

---

[94] Donald James Wonderling, "An Analysis of Typescript Errors and Physical Attitude and Stroking Control Deviations of Senior High Typewriting Students in Residential Schools for the Blind" (unpublished Ed.D. dissertation, University of Pittsburgh, 1971).

[95] Helen Bernadette Barshay, "An Evaluation of the Contribution of Selected Factors to the Job Satisfaction of Transcribing Typists Who Are Blind" (unpublished Ph.D. dissertation, New York University, 1959).

3. What is the effect of deprivation of vision on speed and accuracy attainment?

4. What is the effect of spatial disorientation on typewriting speed and accuracy?

5. What tactual and tactile learning aides should be developed to attain optimum typewriting speed and accuracy in blind learners?

6. What are the characteristics that differentiate between blind students who type with high degrees of accuracy and speed and those with average and/or low degrees of accuracy and speed?

7. What is the optimum age for starting typewriting instruction for blind students in order to produce maximum proficiency?

In addition to searching for answers to such questions as these, investigations should be made into the utilization of certain newly developed machinery in the maximization of typewriting instruction. For example, the International Business Machines Corporation developed in 1966 a machine called the Braille Typewriter. This is an electric-powered machine that writes braille, but it has the same standard keyboard found on any electric typewriter. IBM has stated that the greatest contribution of this machine is that it is expected to facilitate communication between blind and sighted people. It may be that a more important use of this machine will be in providing reinforcement for blind typewriting students in the early learning stages. West[96] emphasized the importance of the visual reinforcement the sighted typist gets in the early learning stages; this is reinforcement that is essential to building correct, non-hesitant, automatic stroking patterns. The blind learner, however, is deprived of this. Investigations should be made to determine if the IBM Braille Typewriter can supply that reinforcement to the blind learner.

Another development in machinery accredited to the IBM Corporation is the Selectric typewriter, a distinguishing feature of which is the elimination of the type bar mechanism in favor of a "ball" element that contains all of the letters of the alphabet, symbols, numbers and special characters. The elimination of type bars eliminates key clashes, crowding, skipping and any other "poor rhythm" errors that vex, inhibit and hinder new typists. The Selectric has a stroke storage system that stores the second of two rapidly typed characters until the first is printed out. In addition, it will not type letters above or below the line because of faulty shift key action. Questions that should be researched include:

1. Is it possible that by using this machine in the early learning stages certain problems are eliminated, thus allowing the student to concentrate on such essentials as proper posture, correct ballistic stroking and key fingering?

2. Will the student who learns to typewrite on a Selectric be able to transfer his skills successfully from the Selectric to other machines, manual as well as electric?

3. Will a blind typewriting student develop speed and accuracy in less time using a Selectric as opposed to learning to write using a "type bar" typewriter?

A third development in machinery, also by IBM, may have implications for blind typists. This development is the MTST-Magnetic Tape Selectric Typewriter. Using this

---

[96] Leonard J. West, *Acquisition of Typewriting Skills* (New York, 1969), pp. 80-87.

system, a typist writes a letter that is produced on magnetic tape and simultaneously printed on a sheet of paper in a Selectric typewriter. Errors are corrected by striking the correct letter over the error letter. This automatically corrects the tape as well as the visual printout. Additions and corrections by the dictator are added by playing back the tape to the desired position and typing in the added material or correction. Material is merged automatically. Retyping of the letter is completely automatic, performed by the MTST electronically at over 150 words per minute.

IBM representatives believe blind typists can do most of the typing in working with the MTST system. Many blind persons have been employed as typists where these systems are in use. At a glance, it seems reasonable that the possibility of employment for blind persons in such a system should be investigated both in the classroom and on the job.

It has been the purpose of this article to reveal the involvement of blindness in the development of the first practical typewriter and to review historically the use of the typewriter in the education and employment of blind persons. This done, history faces us to the future. That future should include efforts for maximal utilization of this tool in the personal and/or vocational pursuits of persons who are visually handicapped.

BIBLIOGRAPHY

American Association of Instructors of the Blind. *Proceedings of the Fourth Biennial Convention*, Philadelphia, 1876.

American Association of Instructors of the Blind. *Proceedings of the Fifth Biennial Convention*, Columbus, Ohio, 1878.

American Association of Instructors of the Blind. *Proceedings of the Fourteenth Biennial Convention*, Pittsburgh, 1896.

American Association of Instructors of the Blind. *Proceedings of the Nineteenth Biennial Convention*, Indianapolis, 1908.

American Association of Instructors of the Blind. *Proceedings of the Forty-First Biennial Convention*, Louisville, 1952.

American Association of Instructors of the Blind. *Proceedings of the Forty-Second Biennial Convention*, Batavia, New York, 1954.

American Association of Instructors of the Blind. *Proceedings of the Forty-Sixth Biennial Convention*, Miami Beach, 1962.

Anderson, Louise. "Aims of Commercial Training in Schools for the Blind – Vocational and Pre-Vocational." In American Association of Instructors of the Blind, *Proceedings of the Thirty-Fifth Biennial Convention*, Pittsburgh, 1940.

Barshay, Helen Bernadette. "An Evaluation of the Contribution of Selected Factors to the Job Satisfaction of Transcribing Typists Who Are Blind." Unpublished Ph.D. dissertation, New York University, 1959.

Bauman, Mary K., and Norman M. Yoder. *Placing the Blind and Visually Handicapped in Clerical, Industrial and Service Fields.* Washington, D.C.: Vocational Rehabilitation Administration, Department of Health, Education and Welfare, 1965.

Best, Harry. *Blindness and the Blind.* New York: The Macmillan Company, 1934.

Best, Harry. *The Blind.* New York: The Macmillan Company, 1919.

"Blind Dictaphone Operators and Typists in the United States and Canada." *Outlook for the Blind*, XVIII (December 1924), 16.

Bliven, Bruce. *The Wonderful Writing Machine.* New York: Random House, 1954.

Brown, A. L. "Aims of Commercial Training in Schools for the Blind – Vocational and Pre-Vocational." In American Association of Instructors of the Blind, *Proceedings of the Thirty-Fifth Biennial Convention*, Pittsburgh, 1940.

Burritt, Olin H. "Pennsylvania Institution for the Instruction of the Blind." In American Association of Instructors of the Blind, *Proceedings of the Thirty-First Biennial Convention*, New York, 1932.

Campbell, Lady. "Royal Normal College and Academy of Music for the Blind." *Outlook for the Blind*, VII (Summer 1913), 39.

Courses of Instruction, Red Cross Institute for the Blind, Bulletin #1. Baltimore, Maryland, September 1919.

Current, Richard N. *The Typewriter and the Men Who Made It.* Urbana: University of Illinois Press, 1954.

Dickey, Thomas W., and Louis Vieceli. "A Survey of the Vocational Placement of Visually Handicapped Persons and Their Degree of Vision." *The New Outlook for the Blind*, LVI (February 1972), 39.

Dolanski, Vladimir. "Technical Aids and Appliances in the Education of the Blind." In *Proceedings of the World Conference on Work for the Blind.* Edited by Helga Lende, Evelyn C. McKay and Sherman C. Swift. New York: American Foundation for the Blind, Inc., 1932.

Dauwalder, Donald D. *Education, Training and Employment of the Blind.* Pittsburgh: Western Pennsylvania School for Blind Children, 1964.

Eakes, John W. "Mississippi School for the Blind." *The International Journal for the Education of the Blind*, I (June 1951), 19.

Foley, Margaret. "The Blind Dictaphone Operator." *Outlook for the Blind*, XXXIX (October 1945), 219.

Frampton, Merle E. *Education of the Blind.* New York: World Book Co., 1940.

Herkimer County Historical Society. *The Story of the Typewriter, 1873-1923.* New York: Herkimer County Historical Society, 1923.

Kirk, Edith C. "A Typewriting Program for Visually Limited Children." *The New Outlook for the Blind*, LXII (February 1969), 56.

MacFarland, Douglas C. "Trends in Employment for the Blind." In American Association of Workers for the Blind, *Proceedings of the Twenty-Eighth Convention*, Houston, 1954.

Merwin, Susan B. "Why Typewriting?" *Outlook for the Blind*, XII, No. 1 (1918), 49.

Occupational Outlook Handbook: 1963-1964. United States Department of Labor, Bureau of Labor Statistics, Bulletin No. 1375. Washington, D.C.: Government Printing Office, 1964.

Platt, Philip S. "Ten Years of Cooperative Rehabilitation Activities – Operations and Results." In American Asociation of Workers for the Blind, *Proceedings of the Thirty-First Convention*, Chicago, 1957.

Report of the Commission of 1906 to Investigate the Condition of the Blind in the State of New York. Albany: J. B. Lyon Company, State Printers, 1907.

Ritter, Charles G. "Devices to Aid the Blind." In *Blindness.* Edited by Paul A. Zahl. Princeton, New Jersey: Princeton University Press, 1950.

Rives, Louis H., Jr. "The Blind and Today's Jobs." *Rehabilitation Record*, VI (March-April 1965), 3.

Ross, Ishbel. *Journey into Light.* New York: Appleton Century-Crofts, Inc., 1951.

Russon, Allien R., and S. J. Wanous. *Philosophy and Psychology of Teaching Typewriting.* Cincinnati: Southwestern Publishing Company, 1960.

Stainsby, Henry. "A Typewriting Office with Blind Operators." *The Blind*, I (January 1900), 159.

Stainsby, Henry. "Typewriting for the Blind." *The Blind*, I (April 1898), 18.

Van Cleve, Edward M. "Educational Waste in Schools for the Blind: Its Causes and Indications; How Measured; Its Prevention." In American Association of Instructors of the Blind, *Proceedings of the Twentieth Biennial Convention*, Little Rock, 1910.

Wagg, Henry J. *Chronological Survey of Work for the Blind.* London: Sir Isaac Pittman & Sons, Ltd., 1932.

Wartenberg, Stanley. "Vocational Training and Placement of Blind Persons – A Specialized Service." In American Association of Workers for the Blind, *Proceedings of the Thirtieth Convention*, Los Angeles, 1956.

West, Leonard J. *Acquisition of Typewriting Skills.* New York: Pitman Publishing Corporation, 1969.

Western Pennsylvania Institution for the Blind. *Third Annual Report of the Directors*, Pittsburgh, 1890.

Western Pennsylvania Institution for the Blind. *Twenty-Sixth Annual Report of the Directors*, Pittsburgh, 1913.

Western Pennsylvania Institution for the Blind. *Twenty-Seventh Annual Report of the Directors*, Pittsburgh, 1914.

Western Pennsylvania Institution for the Blind. *Thirty-Third Annual Report of the Directors*, Pittsburgh, 1920.

Western Pennsylvania Institution for the Blind. *Sixtieth Annual Report of the Directors*, Pittsburgh, 1947.

Wonderling, Donald James. "An Analysis of Typescript Errors and Physical Attitude and Stroking Control Deviations of Senior High Typewriting Students in Residential Schools for the Blind." Unpublished Ed.D. dissertation, University of Pittsburgh, 1971.

708
154

AFWB
Blindness, 1972

PROFESSIONAL LIBRARY
AMERICAN PRINTING HOUSE FOR THE BLIND
LOUISVILLE, KENTUCKY

AMERICAN ASSOCIATION OF WORKERS FOR THE BLIND, INC.
FOUNDED 1895
SEAL OF GOOD PRACTICE
INCORPORATED 1955